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By **C. W. HUTT,** M.A., M.D. Cantab., D.P.H. Oxford,

Deputy Medical Officer of Health; recently Member of War Pensions Committee, County Borough of Brighton; Temporary Lieutenant, R.A.M.C.

83, 85, 87, 89 & 91, GREAT TITCHFIELD ST., OXFORD ST., LONDON, W. 1.

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Experiences IN THE USE OF NITROUS OXIDE AND OXYGEN WITH REBREATHING IN MILITARY SURGERY.

A Paper read before the Medical Society of London on Oct. 29th, 1917,

BY H. EDMUND G. BOYLE, M.R.C.S., L.R.C.P. LOND.,

CAPTAIN, R.A.M.C.(T.); ANÆSTHETIST TO ST. BARTHOLOMEW'S HOSPITAL.

MR. PRESIDENT AND GENTLEMEN,—The anæsthesia produced by the combination of nitrous oxide and oxygen with rebreathing, and ether, or chloroform and ether when necessary, is one that should appeal to anyone who has the interests and welfare of his patients at heart. The easy induction, the rapid and comfortable recovery are factors that all men who are interested in anæsthesia will at once appreciate. This method of anæsthesia has been largely employed in the U.S.A., and it has been written about and papers have been read before the Section of Anæsthetics of the Royal Society of Medicine by Chaldicott, Page, and Flemming.

My own interest in the matter is due entirely to Dr. James T. Gwathmey, of New York, whom I met at the Congress in 1912. He persuaded me to get a machine and try for myself, and I have not regretted it. Gwathmey, as most of you know, is one of the greatest authorities on anæsthesia in the United States, and it has been my privilege and pleasure to have him by me whilst I have been working at the 1st London General Hospital.

The anæsthesia and the technique that I shall attempt to describe is what I have been using at the 1st London General Hospital. To begin with, the patients are given a preliminary injection of morphia, atropine, and scopolamine about half an hour before the time of operation. I think that half an hour is sufficient to enable one to get the full value of the injection during the anæsthesia. Of course, it is not always possible to be sure that half an hour has elapsed before starting the anæsthesia, for it is obvious that in a busy morning of 12 to 15 cases it is at times difficult for the sisters to estimate correctly the exact time at which any one case will get to the theatre. I know that I have anæsthetised patients who had only just had the injection, and patients who had had it an hour or more beforehand. The proportions of the injection that I use are: morphia tartrate, 1/6 gr.; atropine sulphate, 1/120 gr.; scopolamine, 1/100 gr. This is made up so that 5 minims is the dose. We found when this was made up in bulk for hospital use that unless the injection was used at once it became flocculent, so our dispenser added one drop of pure carbolic to 4 oz. of the mixture, and we find that this acts as a preservative, so that the ward supply does not become flocculent and can be used until the bottle is empty. I do not know whether the small amount of carbolic acid has any effect on the anæsthesia—one can hardly imagine that it does, since it is such a minute quantity—1 drop to 4 oz. and the dose of the mixture 5 minims.

The apparatus that I use is Gwathmey's, and consists, as you see, of four cylinders, two N_2O and two O. The supply of N_2O and O is controlled by means of two graduated taps, which permit the gases to flow through the glass bottle containing water in a proportion that can be seen, so that one has visual evidence of how much of each gas is being inhaled by the patient. The gases may go direct to the patient via the rebreathing bag, or may be directed through the bottle containing either ether or chloroform and ether, or such mixture as the administrator chooses to place there. The face-piece has at its top a valve to permit a certain amount of intake and output of air and mixed gases, but in actual practice one does not use this valve a great deal except for those patients who will not stand prolonged rebreathing, on account of attempts at vomiting during the anæsthesia.

TECHNIQUE OF ADMINISTRATION.

One of the most important factors in the production of good anæsthesia is that during the induction the room should be absolutely quiet. And I would here say that there is not enough attention paid to this point by the vast majority of surgeons, anæsthetists, and nurses. During an induction the patient's hearing is at its acutest, and it is, to say the least of it, not encouraging to the patient who—for him—is going through one of the ordeals of his life, to hear the surgeon discussing some matter totally irrelevant to the occasion, whilst in all probability the nurse or somebody is busy clattering bowls and generally making a noise and babel. There should be absolute quiet whenever a patient is being anæsthetised. This condition, great as I know the importance of it to be, is well-nigh impossible at a base hospital, as those of us who work there well know, but it can be ensured even there, and in private practice we ought to insist on it.

Position on the Table.

Gwathmey lays great stress on the importance of having the patient absolutely flat, without even a small pillow, alleging that he finds that breathing is better. My own experience leads me to think that patients as a rule do not like their heads quite so low as Gwathmey would have them, and my usual practice is to have the head slightly raised during the induction, and when anæsthesia is complete I gently lower the head to the horizontal.

Mouth Prop.

I frequently insert a small dental prop between the teeth before starting the anæsthesia. It is my routine to do this when I am giving gas and ether with a Clover, for I have found that it makes induction easier and quieter. With gas and oxygen, however, it does not appear to be so generally necessary as with gas and ether; but the point to be careful about is to observe whether the patient breathes easily through the nose, and if he does not, or if the nose is a narrow one, with very thin alæ nasi, then I always insert a prop. I have found that patients who have these thin alæ nasi will give trouble unless a prop is inserted. The alæ are drawn in towards the septum and the patient makes violent efforts to breathe, but gets nothing or next to nothing into his lungs. I have observed that when this happens the patient becomes pale, with a bluish tint around the mouth, the pupils dilate, and sweating comes on. Treatment for this condition is to open the mouth and get air and oxygen into the lungs.

ADMINISTRATION.

The bag is three-parts filled with N_2O and O in the proportion of 4 to 1; that is to say, oxygen is allowed to bubble through one hole and nitrous oxide through four. The face-piece is adjusted to the face and the gas-valve turned on. And here let me say that the face-piece must fit accurately. If air is allowed to get in at the sides the even course of the anæsthesia will be greatly hampered, and there will be a period of excitement and struggling. The valve at the top of the face-piece is kept open for a few breaths and then turned off, so that rebreathing starts almost from the beginning. The supply of nitrous oxide is now increased until it is flowing in freely through all the apertures and even through the tube itself. I do this to lessen the period of induction, for I hold strongly that the period of induction ought always to be as short as possible—seeing that it is the most unpleasant. In a very short time the patient's breathing grows deeper and more regular until eventually in about three to four minutes it takes on that *automatic rhythm* which is such a constant sign of anæsthesia.

It is necessary to keep a strict watch on the patient's colour, and any degree of cyanosis must at once be remedied by the addition of a little oxygen. It is remarkable how readily these patients respond to oxygen, so much so that only a very little is needed to change the colour back to pink. In my early cases I did not realise this fully and gave oxygen until the pink colour returned, and in consequence in a few cases I very nearly brought my patient out of the anæsthetic state. I now find that it only needs a short sharp turn of the oxygen valve which opens three or four holes for about two seconds.

As soon as anæsthesia has been attained the amount of nitrous oxide coming over is reduced to 4, the oxygen being at 1. With this rate most patients will go on perfectly well

and rebreathing can be continued most of the time. If, however, the patient begins to retch or vomit then I think that there is too much rebreathing and one opens the valve on the face-piece and increases the supply of both oxygen and nitrous oxide.

If it is required to deepen the anæsthesia the pressure in the bag must be increased until when an expiration takes place the bag becomes taut. This will deepen the anæsthesia in a few seconds, but the patient needs careful watching lest he get blue.

Page[1] prefers to give ether to deepen the anæsthesia rather than to push the N_2O under pressure, and on the whole I agree with him.

The signs of overdosage are first of all noisy and stertorous breathing, followed by twitchings of the muscles and accompanied by cyanosis. None of these signs ought to occur in a well-given anæsthetic. The remedy, of course, is more oxygen.

The aim of the administrator should be to get an even anæsthesia, and this is best obtained by being quite sure that the true state of anæsthesia is present before the operator starts, and then keeping the supply of gases at as constant a level as is possible. *Anxious movements of the supply taps only lead to bad anæsthesia.* In this, as with other methods of anæsthesia, the importance of the open and free airway must never be forgotten.

Ether or Mixture.

It sometimes becomes necessary to add either ether or C.E. mixture to the gas and oxygen in cases where extra relaxation of the muscles is required, or during amputations when the nerves are being severed. And here let me say that I have observed that when large nerves are cut in nearly every case the patient moved unless he was being given ether or C.E. This movement does not appear to do any harm, but is troublesome for the operator. Occasionally, if one is having a little difficulty during the induction in obtaining anæsthesia, I find that the addition of ether for a few seconds is frequently enough to produce the required state, but one must be careful not to keep the ether on for long, as this causes coughing and holding of the breath. Just turn it on and off, the whole movement taking about two seconds, and repeat this at intervals of one to two minutes until anæsthesia is complete. Page, in his paper on this subject, says: "The addition of ether during induction makes the administration easier all through even when none is added afterwards." I have seldom found it necessary to give ether or mixture continuously for long—three to four minutes being probably as long as it is ever necessary.

I am not at present prepared to make any definite statement as to the relative values of ether or chloroform and ether with this method, and have up to the present only added chloroform when I have come across some especially burly or alcoholic patient who needed something more potent than ether alone. I find on going through my cases that 38 per cent. have had ether or chloroform and ether.

Regulation of Rebreathing.

On this point Gwathmey in his book on "Anæsthesia," p. 166, says—

"For an even anæsthesia and as an aid to the avoidance of surgical shock a certain amount of rebreathing is of benefit; approximately the rate of flow of the gases should be such that from a quarter to a half of the volume of each respiration is of freshly added gas mixture. Such a proportion reduces to within reasonable limits the expense of gas-oxygen anæsthesia. Too much rebreathing is apt to be followed by post-operative discomfort, usually in the form of headache, and it may cause an increase of post-operative nausea and vomiting. Vomiting during the progress of the anæsthesia is often an indication of excessive rebreathing for that particular patient, although in comparison with other patients it may not appear excessive. At all events, increasing the volume per minute of the gas mixture frequently clears up the symptoms. Our observations on the effect of rebreathing, so far as they go, agree clinically with the laboratory findings of Henderson. Our observations of the blood pressure under nitrous oxide-oxygen (ether) anæsthesia is that there is a distinct rise, not only at the commencement but also throughout the operation."

For my own part, the observations that I have so far made completely confirm Gwathmey's views on this important point—important, because I consider it to be one of the most essential features of the method. Those of us who were in the habit of giving prolonged nitrous oxide and oxygen with a Hewitt's apparatus know that it was a wasteful method, wasteful of the gases, but, what is more important still, wasteful of the patient's energies. A long nitrous oxide and oxygen without rebreathing frequently left the patient in a very exhausted state. They often had profuse sweatings, and in a good many instances patients were far from well for some hours afterwards. With regulated rebreathing, however, this is not the case. The patients keep a good colour and their temperature is, if anything, slightly raised, and there should be no sweating. The temperature of the expired air as felt when the valve at the top of the face-piece is opened is warm to the hand. I have not thought it of sufficient importance to have this air analysed or to record its temperature.

Overdose.

On this point I feel that I cannot do better than quote to you Gwathmey's own words:—

"Surgical anæsthesia is never obtained when the patient appears in the least degree cyanotic on account of asphyxial spasm and rigidity. On the contrary, the *patient must always be pink.* Any anæsthesia accompanied by cyanosis is dangerous."

"The symptoms of an overdose of nitrous oxide in the presence of sufficient oxygen to keep the patient pink is, first, stertorous respiration, and second, the onset of an excessive secretion of mucus. Unless the percentage of nitrous oxide is then decreased, the patient's face and hands take on a death-like pallor (not cyanotic). There is an absolute loss of all the facial reflexes; the respirations become shallow and probably the blood pressure falls (that is, the temporal cannot be found so readily although the rate is not excessive). This condition, if pushed, would probably lead to death from paralysis of the respiratory centre, though we know of no experimental evidence to support the hypothesis."

The treatment for overdose is rapidly to remove the mask and start artificial respiration together with the administration of oxygen, remembering always to keep the airway clear.

POST-OPERATIVE CONDITION.

The post-operative condition of patients who have been anæsthetised with nitrous oxide and oxygen with rebreathing and with a little ether when necessary, is to me one of the most striking points of the method. The patients are conscious within two or three minutes of the removal of the anæsthetic, and in the majority of cases are not sick. At the 1st London General Hospital I have had records kept of consecutive cases, and the result is that of 200 consecutive cases 13 were sick once, 4 twice, and 3 had prolonged sickness (i.e., 2 most of the night and 1 for 2 days).

There is in a fair proportion of cases a feeling of nausea which lasts for about 20 minutes, and occasionally there is some headache, which is probably due to too much rebreathing for the particular patient, but beyond that the recovery is perfect. There is no horrible taste of ether in the mouth, no waves of ether vapour coming over as the patient eliminates the drug. And this holds good, even if a little ether has been given during the early stages of the anæsthetic.

One of my most striking cases was an officer who had had the semilunar cartilage removed; the operation lasted about 40 minutes, and finished at 5.30 P.M. At 7.30 P.M. he enjoyed a full dinner, a result that I think is unobtainable with the older methods.

Since both of the gases are non-toxic it follows that this combination is especially suited to those cases of which we have all seen such a number—the badly wounded and septic man. These cases do particularly well, and at the 1st London General Hospital we have records of three cases of amputation at the hip in men who were profoundly septic and who have all done splendidly.

I wish that I were possessed of sufficient power of oratory to paint you a real word-picture of the after-condition of the patients, but, alas, I am unable to do it justice. For a proper appreciation of the condition one should see the operation and the patients afterwards. There is one point, however, that I should like to bring before you as a result of my analysis of 200 consecutive cases at the 1st London General Hospital. It is that I observe that in most of the cases there is no appreciable rise in temperature after the operation. We are most of us familiar with the rise of

[1] H. M. Page: Royal Society of Medicine, February, 1913.

temperature as shown on the temperature charts after an operation. This does not appear to be the case after an administration with this combination.

At Queen Alexandra's Hospital for Officers at Highgate, where I have used this method extensively, Mr. H. J. Paterson—who is in charge of the hospital—has observed and commented on the fact that there is no rise in temperature after this anæsthetic, and I hope that he will tell us the results so far as the officers under his charge are concerned. The temperature remains steady when clean cases are being dealt with, and even in septic ones I find that the rise is not as great as with other anæsthetics.

SUMMARY OF CASES.

Administered by H. E. G. Boyle	550
,, ,, J. F. Trewby and residents at 1st London General Hospital	161
Total	711

Of these, 5 have had bronchitis, and 1 of these five has had slight broncho-pneumonia.

Of the 550 cases administered by H. E. G. B., 38 per cent. have had either ether or C.E. mixture (2 have had $CHCl_3$ alone).

Fatal cases ... ... Nil.

Analysis of 200 Consecutive Cases at 1st London General Hospital.

	During	After	
Vomiting	1	20	Once ... ... 13 Twice ... ... 4 Bad vomiting: 2 most of the night, 1 for 2 days 3

Thus only 1·5 % had what could be termed "bad" vomiting.

Temperature: Highest rise 101°-105 (drainage of buttock). Average rise 0·9 of a degree.

3 men complained of pain (all of them were bone cases).

2 men said that they preferred to come round 2-3 hours after operation.

1 appendix. $CHCl_3$ added for relaxation, but this was not good.

1 hæmorrhoids. C.E. added, but was difficult to keep quiet.

1 amputation above ankle required 1 oz. of ether. (This is the largest amount of ether that any of the 200 cases have had.)

LIMITATIONS OF THE ANÆSTHETIC.

It must not for a moment be thought that this combination of anæsthetics is suitable for all cases. It is not, but it forms a most useful addition to our armamentarium as anæsthetists.

I think it will be easier if I give you the type of operation in which, at any rate in my hands, the method is unsuited.

1. Cases when *absolute* relaxation is required all the time.

2. Some abdominal cases—e.g., gall-bladder operations. These can be done, but unless the surgeon is prepared to make a large incision and to inject the muscles with some analgesic mixture the operative procedure will be very difficult. And this holds good to a lesser extent for appendix operations, but here it is quite possible to do them if the surgeon is going through the muscles over McBurney's point, but if he prefer to go behind the rectus then, unless there is to be injection of the muscles, I would not advise gas and oxygen from the point of view of the surgeon's comfort.

3. So far I have not done much with intra-oral cases, but the few that I have done have been fairly successful. Gwathmey, however, assures me that he has perfected a technique for tonsils and adenoids, and I hope soon to try it for myself.

I have used this combination in a large variety of cases; the list includes, amongst others, such cases as: amputation of breast, hernia, varicocele, varicose veins, trephining, glands in neck, appendicectomy, hysterectomy, gall-bladder, prostate, and various others, including, of course, the many cases of wounded officers and men and their numerous ailments.

CONSUMPTION OF GASES.

I find that 200 gallons of nitrous oxide and 60 gallons of oxygen are sufficient to last for 2½ hours under ordinary circumstances. I have, of course, done better and also worse than that; but in my experience that amount is about the average. The longest case that I have so far administered the combination for lasted 2¼ hours.

Nursing Point of View.

The work of the nurses is considerably lessened when this combination is employed, for it is obvious that if on the return to the ward the patient is conscious and not vomiting he does not need the undivided attention of a skilled nurse. And this point is of extreme importance in a large military hospital, since it often happens that 8 or 10 operations may be all from the same ward during a morning's work. The contrast between 8-10 semi-conscious and probably vomiting patients and 8-10 men who are conscious and not sick is one that appeals greatly to an overworked nursing staff.

I have been at some pains to discover the opinion of the sisters and nurses with regard to their patients after this anæsthetic, and from inquiries which I have made at the various private hospitals for officers to which I am attached, as well as at St. Bartholomew's and the 1st London General Hospital, the consensus of opinion is that they much prefer to have their patients given gas and oxygen to anything else.

CONCLUSION.

In conclusion, let me say that my reasons for bringing this matter forward are because I am quite convinced that it is an advance on the older methods of anæsthesia and, from the patient's point of view, it is infinitely a better form of anæsthetic than ether or chloroform; for after this combination the recovery in the great majority of cases is devoid of those unpleasant and distressing conditions with which most of you are familiar.

This paper, then, may be taken as an attempt to procure a more extended use of gas and oxygen with regulated rebreathing in major surgical procedures, and especially in the treatment of our wounded.

My own experience of this method with our wounded men has been confined to work at the 1st London General Hospital and to various hospitals for officers in London, and I unhesitatingly say that in my opinion the combination of anæsthetics which I have attempted to describe is infinitely better for most of the men than ether, chloroform, or mixtures thereof. Of conditions at the front I cannot speak with such certainty, as I have, unfortunately, not been there, but it appears to me that it would be of considerable advantage out there if after most of the operations the patients were conscious within a few minutes. It would lessen the work of the orderlies and nurses, and, apart from this aspect of the matter, we must remember that this anæsthetic is non-toxic, and therefore there is less strain put on to the patient, seeing that he does not have to eliminate the drug, be it ether or chloroform, from his system. Moreover, there is no shock after gas and oxygen.

Finally, let me give one word of warning. This combination of anæsthetics is not one to place in the hands of the careless or inexpert—it requires skilful administration, and if used carelessly will inevitably lead to disasters.

HOSPITAL SUNDAY AT EXETER.—Hospital Sunday was held at Exeter on Oct. 21st. There was a special service at the Cathedral, when the staff, committee, and governors of the Royal Devon and Exeter Hospital attended. The mayor and corporation and representatives of other public bodies were present. The preacher, Rev. Prebendary F. Buckingham, made a strong appeal for funds to reduce the deficiency between the income and expenditure of the hospital, which is about £2200.

THE NATIONAL MEDICAL UNION.—At a meeting of the council of the National Medical Union, held at 346, Strand, London, on Oct. 19th, Mr. V. T. Greenyer, F.R.C.S., presiding, the following resolutions were unanimously passed:—

1. The National Medical Union advises its members and all other non-panel medical practitioners to refrain from attending discharged disabled soldiers and sailors under "the special arrangements" of the Insurance Commissioners, but encourages treatment in their private professional capacity.

2. The National Medical Union regrets that it has been considered necessary to replace British medical men capable and desirous of retaining their appointments in the war hospitals by foreigners holding foreign qualifications.

3. The council of the National Medical Union deprecates that section of the General Order of the Local Government Board, which instructs and allows the diagnosis and notification of measles and German measles by the lay public.

Observations
ON
CIRCULATORY INEFFICIENCY,
WITH SPECIAL REFERENCE TO THE NERVOUS FACTOR.

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THE maintenance of an efficient circulation is dependent upon the efficient working of all the factors which comprise the circulatory mechanism. Disturbance of any one of these leads to a disturbance of the circulation resulting in inefficiency. While it is true that certain parts of the mechanism are more vital than others, the difference is one of degree only, and it is possible that owing to the less obvious nature of the disturbance resulting under certain conditions the importance of the underlying cause may be minimised or altogether overlooked. The present observations are largely based upon a clinical study of the nervous and circulatory phenomena occurring in diphtheria and dysentery.

CIRCULATORY INEFFICIENCY IN DIPHTHERIA.

Two distinct types of inefficiency were met with. The one is always preceded by the onset of arrhythmia and has long been attributed to a state of "cardiac paralysis." In the second form a normal rhythm is maintained even in fatal cases.

The clinical features in these two conditions are quite distinct and in striking contrast, and may be taken to illustrate the fundamental difference in two common types of circulatory inefficiency.

In 20 cases presenting severe symptoms of circulatory failure polygraphic records were obtained daily; a much larger number of cases was observed from time to time. Of the cases graphically investigated eight were reported in a previous communication.[2]

Clinical classification.—A. Cases which maintain a normal rhythm: vascular type. B. Cases which develop a marked arrhythmia with rapid pulse, and in which paroxysms of regular tachycardia may occur: cardiac type.

Symptomatology.

A. These cases, usually fatal within the first ten days of the disease, present the appearance of profound exhaustion. The pulse remains regular, but soon becomes enfeebled and frequently disappears entirely from the wrist. There develops an ashen pallor of the face. The extremities become cold and clammy, and in the late stages cyanosed. The heart continues to act strongly till within a few hours of death. Increase in liver dullness is slight or entirely absent, and dilatation of the heart is of late onset and of moderate degree only. Consciousness is retained throughout, although apathy is marked, and death is usually preceded by a convulsion. The sequence of events points to a primary failure of the peripheral circulation leading to venous stasis and engorgement with subsequent embarrassment of the heart. The terminal convulsion is attributed to cerebral congestion.

Subcutaneous, subepicardial, subperitoneal, gastric submucous hæmorrhages and purpuric eruptions are very frequently present in these cases and testify to the severity of the blood infection and involvement of the capillaries.

Case 1 of the present series and Cases 6, 7, and 8 previously reported[2] are examples of this type of circulatory failure.

B. These cases are examples of "cardiac paralysis," a syndrome including marked cardiac arrhythmia, increase in cardiac and liver dullness, and triple rhythm on auscultation. The pulse remains of comparatively good strength till the arrhythmia has persisted for several hours at least. Congestion of the lungs is absent except as an occasional terminal result. The sequence of events is very definite in marked cases, and is well illustrated by the state of the circulation in Case 2 on the thirty-second day of disease. The onset of arrhythmia was accompanied by unusual mental excitement and was shortly followed by increase in cardiac and liver dullness with physical and mental exhaustion. Gradual enfeeblement of the pulse followed, and such other signs of cardiac failure as dyspnœa, cyanosis, and coldness of the extremities, with, however, no sign of pulmonary congestion.

The onset of the marked arrhythmia due usually to the presence of frequent premature contractions, and often associated with paroxysms of regular tachycardia, occurs usually early in the third week, but it may be preceded for some days by a slight arrhythmia due to the presence of an occasional premature contraction. Such cases rally repeatedly and may make a complete recovery. In fatal cases marked signs of circulatory failure are frequently wanting at the time of death, which is due to failure of respiration, to which a diaphragmatic palsy or broncho-pneumonia may be contributory.

Nervous System.

The changes in the central nervous system which occurred in these cases and the reflex and other phenomena—e.g., paralyses, have been described elsewhere.[4] The severe cases all developed extensive paralysis involving limb muscles, palate, and diaphragm. They presented, among other reflex changes, a crossed leg reflex, which is held to indicate a definite spinal cord lesion, a point to which one would draw special attention.

The oculo-cardiac reflex was investigated[5] and found to be absent during the period of disturbed heart action, returning in cases which recovered, as the cardiac state became normal.

Pathology.

The following description of the histological changes in diphtheria, exhaustively investigated by many workers, summarises the outstanding features, which are found to be fairly constant in severe cases.

Vagus nerves.—Hibbard[6] found that the vagus nerve in fatal cases of diphtheria always had some evidence of degenerative changes. Mallory[8] confirms these findings.

Medulla oblongata.—Bolton,[7] from an examination of 13 cases which died in the acute toxic stages of diphtheria, found marked fatty degenerative changes in the medulla oblongata. He found no degeneration of the vagi.

Myocardium.—Mallory,[8] in a study of 251 autopsies, found fat in the muscle fibres of the heart in over half the cases; hyaline degeneration, necrosis of the fibres, and interstitial myocarditis were frequent.

Central nervous system.—In a series of 28 cases, selected on account of cardiac symptoms or paralysis or the severity of the disease, Mallory[8] found slight to marked diffuse fatty degeneration in the white substance and nerve fibres of the central nervous system.

Suprarenal glands.—Sergent,[10] in 1902, advanced the theory that many of the symptoms met with in severe cases of diphtheria were due to suprarenal insufficiency.

Moltschanoff,[9] as the result of observations on fatal cases and from animal experiments, states that both in the capsule and medulla of the suprarenal in diphtherial intoxication there is at first an increased reaction on the part of the cells, followed by a reduction or complete loss of function; such loss of function may result either from atrophy of the cellular elements or from marked circulatory disturbances.

In the face of such complex and widespread pathological findings it is clear that no conception of circulatory failure in diphtheria will be complete which does not embrace the possibility of its dependence upon pathological changes not only in the heart muscle and its intrinsic nerve elements but also in the blood-vessels, the medulla oblongata, the vagi, and the sympathetic nervous system, as well as in the suprarenal glands.

DYSENTERY.

Before discussing the nature and significance of circulatory inefficiency, attention is directed to the conditions met with in dysentery, as they have a distinct bearing upon one aspect of the question.

In severe cases of dysentery, including fatal cases, marked signs of circulatory failure were met with in the acute stage. The symptoms in their nature and sequence were strictly comparable with those described above as occurring in diphtheria in cases which maintain a regular rhythm. The failure of the peripheral circulation was definitely the primary event, to which the other symptoms were subsequent. As these patients became convalescent a large proportion presented persistent symptoms of disordered heart action, in which the vaso-motor disturbances remained

the outstanding feature. No severe arrhythmia was met with and the second type of circulatory failure was not observed.

Two factors of extreme importance in their bearing upon the severity and persistence of symptoms in these cases were, firstly, that the men remained on duty for a varying period of days and even weeks after the onset of dysentery, frequently reporting sick only when completely exhausted; secondly, the presence of a secondary bowel infection associated with secondary pyrexia which persisted for a long period after the primary dysenteric process had subsided.

Other infections.—The same type of circulatory inefficiency is to be observed in many other infections and has been noted by the writer in cases of severe scarlet fever, pneumonia (frequently), enteric fever, and infective jaundice.

THE NATURE OF CIRCULATORY INEFFICIENCY.

Two types of circulatory inefficiency arising in the course of acute illness and leading by the severity of symptoms to circulatory failure have been described. Differentiation between these two types is a matter of considerable importance, as they stand for two quite different forms of disability and their study throws considerable light upon the commoner circulatory disorders.

In the first, *the vascular type*, the cardiac rhythm remains normal and there occurs a primary failure of the *peripheral* circulation with *subsequent* embarrassment of the cardiac action. The outstanding symptoms are vaso-motor and depend upon a disordered function of the nervous control of the peripheral circulation, the disorder of the suprarenal gland playing an important part.

The second, *the cardiac type*, is invariably preceded by the onset of a marked arrhythmia due as a rule to frequent premature contractions, with occasional paroxysms of regular tachycardia. The degree of circulatory failure may become extreme and the sequence of symptoms is the same as that which follows the onset of auricular fibrillation, the common cause of cardiac failure in patients not suffering from acute illness. In both cases the presence of a rapid arrhythmia is the important factor, and its persistence determines the degree of inefficiency which results. In diphtheria the cessation of the arrhythmia and the return to slower pulse-rate is quickly followed by the disappearance of the signs of circulatory failure. The same sequence of events occurs in temporary or paroxysmal cases of auricular fibrillation, where with the disappearance of the arrhythmia the symptoms quickly subside.

SIGNIFICANCE OF CIRCULATORY INEFFICIENCY.

Vascular type.—When this condition persists owing to the severity of the original disease or to faulty treatment a group of symptoms—exhaustion on exertion, coldness of extremities, giddiness, pain and dyspnœa—is established which may become permanent. In such patients, who usually present an excitable heart's action, the writer, except in a few cases, has been unable to demonstrate any definite reflex changes, and the further elucidation of the nervous phenomena is extremely difficult. The considerable amount of evidence available pointing to pathological changes in the suprarenal glands in the course of acute diseases furnishes a connecting link in the chain of events which still await explanation.

More important, however, is the fact that, by early treatment and adequate rest in the acute stage and by insistence upon a complete recovery, including removal of the infective focus, before return to work of all patients suffering from infectious diseases, the incidence of disability from circulatory inefficiency may be greatly reduced.

Cardiac type.—The chief significance of this type is the bearing it has upon the relative importance to be attached to the myocardium and the nerve structures, intrinsic and extrinsic, which influence and control the heart's action in health, but especially in disease. They cannot be regarded other than as component parts of a whole. The old antagonism between the so-called myogenic and neurogenic conceptions of heart action no longer holds. But it is necessary to bear in mind that the interdependent structures may be differently affected by different morbid processes with consequent diverse results owing to the different functions they subserve.

During the clinical study of diphtheria the comparison between the effect of the disease upon cardiac muscle with its nerve mechanism, on the one hand, and skeletal muscle and its nerve mechanism, on the other hand, naturally arose. The one, truly, more highly specialised than the other and containing primitive elements neither muscle nor nerve, but both governed by higher centres and liable to be attacked by poisons in the same way. The limb paralyses are admittedly dependent chiefly upon lesions of the nervous elements, and the writer has advanced evidence elsewhere [1] in support of the view that the central nervous system, and not the peripheral nerves, is mainly at fault. It is impossible, on account of the widespread nature of the pathological lesions in diphtheria, to assert on histological grounds that one structure is more at fault than another, and clinical observations become, therefore, the more important; they are strongly in favour of the view that the chief factor in circulatory inefficiency in diphtheria is disordered action of the controlling nerve elements and not myocardial deficiency, thus bringing "cardiac paralysis" into line with the paralyses of skeletal muscles. In its wider bearing the conception is not contrary to observed clinical facts. The extrasystole has long been regarded by Mackenzie as the unit of arrhythmia, and it is generally conceded that auricular fibrillation, auricular flutter, and other forms of paroxysmal tachycardia are allied disorders, the true explanation of which depends upon the understanding of the extrasystole.

The chief of these arrhythmias, however, auricular fibrillation, is described in terms of a disordered muscle, to the exclusion of the nervous mechanism. Although any degeneration of the myocardium reduces the efficiency of the heart muscle, the result of hypertrophy is such that an efficient circulation may be permanently maintained in spite of very considerable myocardial degeneration so long as no severe arrhythmia supervene. While the intrinsic cardiac nerves, and especially the Purkinje system and nodal structures, have been proven mainly to be at fault in the production of arrhythmia, much clinical evidence points to the necessity for investigation also of the extrinsic nervous structures, and the morbid processes which particularly affect them, in order to arrive at a more complete understanding of all the factors which influence the inception of cardiac arrhythmia.

ILLUSTRATIVE CASES.

CASE 1. "*Vascular paralysis*"; *acute toxæmia; purpura; regular rhythm; death.*—A boy, aged 5 years, admitted on the sixth day of disease suffering from very severe faucial diphtheria. 20,000 units of antitoxin were administered intramuscularly and 16,000 units were given on the following day. On the morning of the seventh day the patient was pale and very quiet. There was considerable œdema of the tissues of the neck; a purpuric rash and some subcutaneous hæmorrhages were present on the limbs. The extremities were cold and clammy. The pulse was regular but extremely feeble. Cardiac dullness was not increased, and clear first and second sounds were present in all areas. Liver dullness extended 1 inch below the costal margin. The temperature was 98° F. At 3.30 P.M. there was slight cyanosis and the patient was restless. Cardiac dullness now extended 1½ inches to the right of mid-line; first and second sounds were still present; liver dullness was unchanged. The lungs were clear. A polygraphic tracing, obtained with great difficulty owing to the extreme feebleness of the pulse, showed a pulse-rate of 120 per minute, a normal A-C interval, and slight sinus arrhythmia. The respirations were 30 per minute. During the evening the patient became very restless; the pulse was almost imperceptible at the wrist; the temperature dropped to 97° F. Consciousness was retained until 2.20 A.M. on the eighth day, when a convulsion occurred and was immediately followed by death.

Post mortem, subepicardial, subperitoneal, and gastric submucous hæmorrhages were present. The right heart, especially the right auricle, was dilated. The heart muscle was pale. The suprarenal glands were congested, but presented no other naked-eye change.

CASE 2. "*Cardiac paralysis*"; *frequent premature contractions, simulating auricular fibrillation; paroxysmal tachycardia; death.*—Female, aged 4 years, admitted on the eighth day of disease. A positive culture had been obtained. The throat was clean. 8000 units of antitoxin were administered intramuscularly. On the eighteenth day palatal palsy developed. The pulse, which was of good strength, became feeble and irregular, the irregularity being due to frequent premature contractions of uncertain nature, occurring singly and in pairs, rate 90 per minute. Cardiac dullness extended 1 inch to the right of the mid-line and 1 inch beyond the left nipple line. Triple rhythm was present on auscultation. The liver extended 2 inches below the costal margin. The arrhythmia and other abnormal physical signs persisted until the twenty-ninth day when

cardiac dullness was increased slightly to the left only, the pulse was regular, except for a very occasional premature contraction, and was of moderate strength. On the thirty-second day, at 8 A.M., the pulse was regular with a rate of 118 per minute; at 11.45 A.M. the patient was of a good colour but unusually excited and talkative. The pulse was of moderate strength but markedly irregular with a rate of 140 per minute. Cardiac dullness extended 1 inch to the right of the mid-line and 1½ inches outside the left nipple line; first and second sounds were present on auscultation. The liver was tender and extended 1½ inches below the costal margin. The lungs were clear. During the succeeding 12 hours a great variety of rhythms were present. Periods of regularity, with a pulse-rate of 120-135, were interrupted by occasional premature contractions, occurring singly and in pairs. At times the premature contractions became so frequent and the pulse so irregular as to simulate auricular fibrillation. Two short regular paroxysms, at rates of 200 and 240 per minute, were followed by an extreme arrhythmia at a rate of 130 per minute. When the arrhythmia had persisted for several hours the extremities became cold, slight cyanosis developed, and the patient was collapsed. The pulse was feeble, but easily palpable. The lungs were clear. On the following day the patient was better. The pulse was stronger, with a rate of 118 per minute, an occasional premature contraction occurring. The cardiac dullness extended 1½ inches beyond the left nipple line, the increase to the right had disappeared. Clear first and second sounds were present. On the forty-sixth day the patient again had several paroxysms of cardiac arrhythmia, accompanied by symptoms of mental excitement and followed by collapse. Diaphragmatic paralysis, with bronchitis and pyrexia, had developed in the interval. Death occurred on the forty-ninth day. Up till the time of death the pulse remained of moderate strength, with a rate of 120 per minute, and was regular except for an occasional premature contraction. Cardiac dullness extended 1 inch to the right of the mid-line and 1½ inches outside the left nipple line. The apex beat was forcible, being in the fourth space 1 inch outside the left nipple line. Loud and clear first and second sounds were present. Liver dullness extended 2 inches below the costal margin. The patient gradually became unconscious, breathing became laboured, and death was apparently due to respiratory failure.

SUMMARY.

Two types of circulatory inefficiency are described, observed in the course of diphtheria and other acute infections: a vascular type and a cardiac type. In both disturbed nervous control is held to be the essential factor.

Vascular type.—The cardiac rhythm remains normal, and there occurs a primary failure of the *peripheral* circulation with subsequent embarrassment of cardiac action. The outstanding symptoms are vaso-motor and depend upon the disturbed function of the nervous control of the *peripheral* circulation. The intrinsic nerve elements of the blood-vessels, the extrinsic nerves and their connexions may all be involved; disturbance of suprarenal gland activity probably plays an important part.

This condition is described in the acute stages of diphtheria and dysentery; it has been noted also in severe cases of scarlet fever, pneumonia, and enteric fever. When it persists a group of symptoms—exhaustion on slight exertion, dyspnœa, pain, giddiness, and palpitation—is established which may become permanent; to obviate this, early treatment, complete removal of the infective focus, and adequate rest are essential in all patients suffering from acute infections.

Cardiac type.—This type, observed in diphtheria, is always preceded by the onset of a severe arrhythmia, due, as a rule, to frequent premature contractions with occasional paroxysms of regular tachycardia. A comparison is made between the state of the circulation in this condition and that which results from the onset of auricular fibrillation, the common cause of cardiac failure in patients not suffering from acute illness. It is suggested that any consideration of the factors controlling arrhythmia should embrace, in addition to the intrinsic nerve elements of the heart, its extrinsic nervous connexions, including the central nervous system, the sympathetic system, and the pathological processes which specially influence these structures.

References.—1. Bolton: Archives of Neurol., 1903, ii., 806. 2. Gunson: Brit. Jl. Childr. Dis., 1914, xi., 385. 3. Id.: THE LANCET, 1916, ii., 146. 4. Id.: Rev. of Neurol. and Psych., 1915, xiii., 317. 5. Id.: Brit. Jl. Childr. Dis., 1915, xii., 97. 6. Hubbard: Med. and Surg. Rep., Boston City Hosp., 1898, ix., 33. 7. Mackenzie: Dis. of the Heart. London, third ed., 1913. 8. Mallory: Bacteriol. of Diph., edited by Nuttall and Graham Smith, second ed., 1913, 99. 9. Moltschanoff: Jahrbuch f. Kinderheilk., Erganzungsheft, 1912, lxxvi., 200. 10. Sergent: Presse Méd., 1902, x., 939.

ON THE PRESENCE OF A SPIROCHÆTE IN THE URINE IN CASES OF TRENCH FEVER.

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AND
C. E. SUNDELL, M.D. LOND., M.R.C.P. LOND.,
TEMPORARY CAPTAINS, R.A.M.C.

With an Introductory Note by Colonel Sir JOHN ROSE BRADFORD, K.C.M.G., C.B., A.M.S.

Introductory Note.

UNDER the term "trench fever" a large number of cases of fever have been observed that have certain features in common, more especially a peculiar temperature chart and slow pulse, together with severe and persistent pains in the bones of the legs. Although, with increasing experience, gathered from the study of a large number of cases, several types of trench fever have been recognised, one outstanding feature common to many cases is the frequency with which the fever and the symptoms relapse. After an initial fever of short duration, lasting two to four days, defervescence takes place, and after an interval of varying length in different patients a further rise of temperature, with a return of the bone-pains, occurs. In some cases but one relapse takes place, in others more than one, and occasionally the illness may in this way be prolonged for several weeks. The patient may be free from discomfort in the apyrexial periods, but the severe bone-pains return with the f brile periods. In one type of case the pyrexia during the relapse is of quite short duration, the temperature returning to the normal within 24 hours of the rise. In these cases a very characteristic chart is obtained, as a single "spike" is seen at strikingly regular intervals, if the relapse occurs more than once. Such charts present a certain resemblance to the well-known charts of malaria, especially as cases may be seen where the relapse occurs with great regularity after a given number of days, varying, however, in different patients.

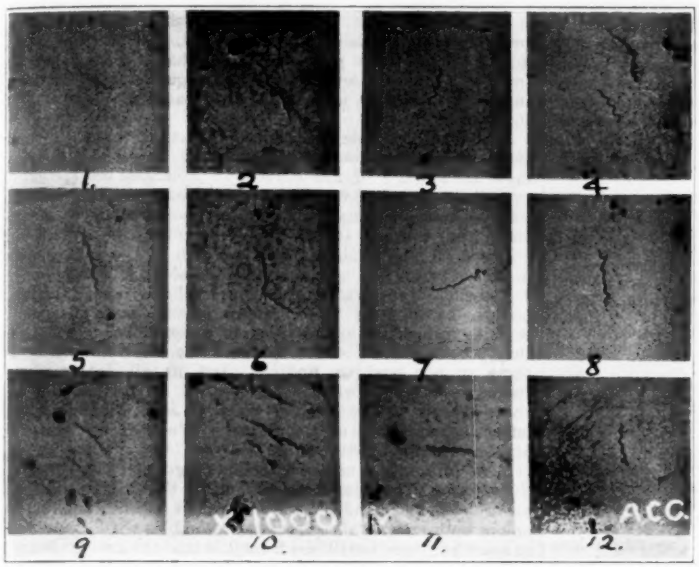
Prolonged observations have as yet failed to demonstrate any specific virus in the blood of these patients, although the work of McNee and his colleagues has shown that the infection is present in the blood and can be transmitted by inoculation of the blood. The fact that relapse is such a prominent clinical feature of the disease, and also the peculiar course of the fever, have suggested to many that the infective agents may possibly be of protozoal rather than of bacterial origin. Further, the tendency of trench fever to relapse presents analogies with certain spirochætal diseases, such as relapsing fever and Weil's disease; and in the latter malady spirochætes can be detected in the urine at a certain period of the disease. Several observers have succeeded in obtaining evidence of the presence of spirochætes in the urine of cases of trench fever, and Captain Nankivell and Captain Sundell in their present communication deal with this side of the problem. In Weil's disease the microscopic evidence of the presence of pathogenic spirochætes can be controlled by experimental inoculation into animals. In the case of trench fever this method of control has so far not been possible, as the disease has not yet been successfully transmitted to animals by any inoculation of blood, urine, &c.

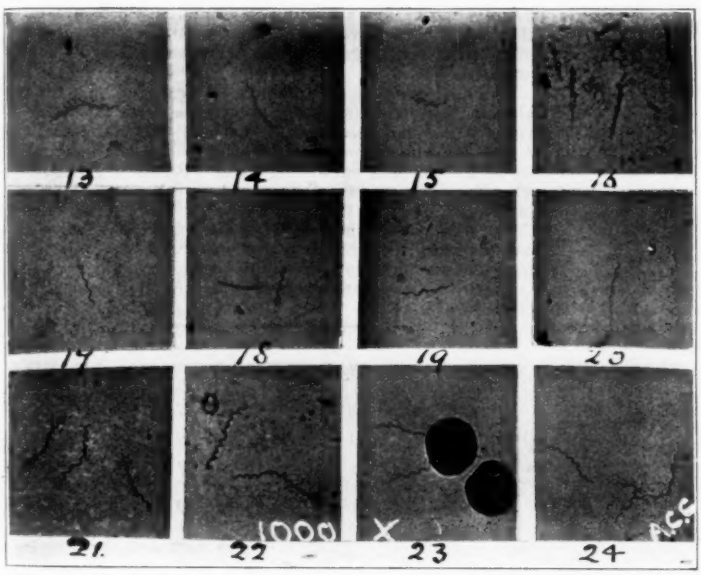
The demonstration of spirochætes in the urine of cases of trench fever cannot, therefore, be regarded as proving that trench fever is of spirochætal origin; but evidence of value in this direction would be obtained by proof that these spirochætes are only found in cases of trench fever, and more especially at a certain stage of the fever. Both these matters are dealt with in the paper by the authors.

Sept. 1st, 1917.

In the early part of June this year Lieutenant-Colonel C. J. Martin, F.R.S., A.A.M.C., showed us a specimen of spirochætes stained by carbol-fuchsin in a urine deposit from a case of trench fever. Since that time we have examined 99 specimens of the urine taken from 26 persons, and have found spirochætes on 29 occasions. Over 300 films have been made and examined.

Type of case.—Our investigations have, with three exceptions, been confined to that type of trench fever which has been called "five-day fever." Fifteen typical





Description of Photo-micrographs.

Stained with Giemsa's stain. Magnification precisely 1000. All taken under exactly the same conditions on two quarter plates.

FIGS. 1, 3, 4, and 15. Short spirochætes. Compare with size of red blood corpuscles in Fig. 23.

FIGS. 2, 5, and 17. Long spirochætes.

FIG. 7. Very shallow spirals. FIG. 20. Shallow spirals.

FIG. 13. ? Flagellum at left end.

FIG. 16, and horizontal one in 18, show straight bodies.

FIGS. 17 and 18 show a loop or thickening at the end of the spirochæte. A similar appearance has been noted by Reimer in his paper on spirochætes in the blood of trench fever patients.

FIGS. 21 to 24. *T. pallidum* from a primary sore, reproduced for purpose of comparison, and photographed under exactly the same conditions on the same plate. Figs. 21 and 22 deeply stained; Figs. 23 and 24 less deeply stained. Note difference in apparent thickness as an effect of the stain.

cases have been examined. The spirochætes have been found in 12. Each of the three negative cases was examined once only, and in one instance not till the twenty-third day. In three other cases of continued pyrexia with severe shin pains spirochætes were not found.

Controls.—We have examined the urine of eight "controls," including two healthy men, two cases of empyema, one of bronchitis, one paratyphoid, one malaria, and one early Weil's disease. In none of these cases were we able to find spirochætes.

Collection of samples.—In all our cases we took special care to exclude the possibility of primary or secondary syphilis and local diseases of the urogenital tract. Precautions were taken against contamination of the urine by saliva, and the urine containers were scrupulously cleansed before use. In two of our positive cases the first samples of urine were discarded and the penis cleansed with 1-80 carbolic before a second sample of urine was passed. This was collected in sterilised flasks and did not grow any organisms on culture. We do not think that catheterisation is justifiable. Clean and even sterile samples of urine can be obtained without this, and a prolonged course of catheterisation is not fair to a convalescent patient. The small number of spirochætes in our positive cases and the inconstancy of their presence (e.g., on 5 days only out of 21) are not in keeping with the hypothesis that the organisms we have found originated from a chronic preputial spirochætosis; had they been derived from that source they would have been present every day and in larger numbers. The smegma of one of our positive cases was examined for spirochætes, and none were present. In cases of balanitis spirochætes, indistinguishable from the spirochætes we are describing, are found under the prepuce; but they are invariably accompanied by large numbers of *S. refringens* and other micro-organisms. We have never yet found *S. refringens* in any of our films. These considerations, taken in conjunction with the fact that all our control cases were negative, seem to us sufficient evidence that the spirochæte found in cases of trench fever is not due to an accidental contamination.

Stage of illness investigated.—Four of our cases have been under observation from the first day of illness. In one, spirochætes were present in urine passed within 24 hours of the onset. The other cases were not examined before their first relapse. In several cases daily examinations were made over a period of 10 days, and in one over a period of 20 days. In this case spirochætes were found on five occasions only—the first, third, thirteenth, fourteenth, and seventeenth days.

Prevalence of spirochætes.—In our experience the presence of spirochætes is very variable. In a given case a succession of failures lasting several days may be followed by the finding

of a large number in a single film. We incline to the view that there is a distinct tendency for positive findings to occur in the urine passed 24 hours after the summit of the pyrexial "spike." We also found that spirochætes may be present in striking abundance on the fourteenth to sixteenth day. Four of our cases which had been negative for several preceding days showed this. In this connexion it is interesting to recall the similar behaviour of the spirochæte of hæmorrhagic jaundice.

Preparation of films.—The method we have adopted in preparing the films is as follows:—

Ten cubic centimetres of the urine are centrifuged at high speed for 15 minutes. The supernatant fluid is then pipetted off very gently, leaving the deposit and a layer of urine about 3 mm. in depth over this. Five cubic centimetres of distilled water are then added, and the precipitate thoroughly washed. The fluid is again centrifuged for a quarter of an hour, and the supernatant fluid is again pipetted off very carefully. The deposit is then thoroughly stirred with a platinum loop, and a film is made by superimposing three loopfuls on a clean microscopic slide. The piled-up drop thus obtained is dried in the incubator. The resulting film is circular, with a diameter of about 4 mm., and represents the sediment of about 1 c.c. of the original urine.

In the earlier stages of our work we used thicker films, made by adding further loopfuls of urine sediment to the dried film and again evaporating, but we now consider that single-layer films give the better results. Fearing at one time, after several consecutive negative films, that we might lose some spirochætes during the process of staining and washing through lack of fixative, we added a trace of egg-albumen, but the results obtained were no better than by the ordinary method.

It is our custom to make four films, each from a different urine sediment, on one slide. This ensures equality of staining, and each film acts as a control to the others, which is important in view of the erratic staining properties of spirochætes by the silver method. We have never yet found all these four films on one slide to be positive at the same time—a sufficient guarantee that the spirochæte did not originate in any of our reagents.

Staining methods.—We have stained the majority of our specimens by a modified Fontana silver method as follows:—

The film is washed gently for two minutes with a solution of 8 per cent. formalin and 1 per cent. glacial acetic acid in distilled water. This fixes the film to some extent and dissolves out some of the remaining urine salts. The film is then washed in absolute alcohol for one minute and allowed almost to dry. When nearly dry it is washed again for a few seconds with distilled water and then flooded with a hot 5 per cent. tannic acid solution containing 1 per cent. of carbolic acid. This mordant is poured on steaming from a test-tube, and is allowed to act for two minutes. The film is then thoroughly washed in distilled water. The silver solution used is 2 per cent. silver nitrate in distilled water, to which the faintest trace of ammonium hydrate—just enough to give a slight opalescence—is added immediately before use. This is used cold, and is pipetted over the film in a slow and continuous stream until the necessary depth of staining—a dark-brown colour—is obtained. The slide is then washed well in distilled water, and dried with a current of cold air by means of a "puffer" or a Politzer bag. In our opinion the use of blotting-paper in drying any delicate film is unjustifiable. The film should be mounted in Canada balsam; for if cedar-wood oil is placed directly upon the film the spirochætes are decolourised in a day or two. Spirochætes stained by this method and examined with a 1/12 objective and 6 ocular appear jet-black against a faint grey or brown background. When examined by dark-ground illumination they are brilliantly white and clear against the surrounding black. With Giemsa's stain the spirochætes stain pale red with a tinge of blue as seen with ordinary illumination, and are of a golden colour when viewed with a dark-ground illumination.

An alternative staining method to the Giemsa or the modified Fontana is with carbol-fuchsin. The film is mordanted as above, and is then stained for an hour in the incubator in strong carbol-fuchsin (Ziehl-Neelsen). It is then washed in distilled water. The spirochætes stain pink by this method. We have employed it only occasionally on account of the considerable ocular strain caused by prolonged searching. A spirochæte stained black, or appearing golden against a dark background, is more easy to see than one stained faintly red.

Presence in the urine.—Their number in the urine is variable. From the same specimen of the urine four films of the size of 5 mm. were searched, each for half an hour, and only one spirochæte was discovered. On another occasion, from the same patient, 22 spirochætes were found in one film. Before a urine was called negative at least three, and often four, films were made and searched, each for half an hour.

Morphology.—These spirochætes are actively motile. Their average length by ocular measurement is 8·15μ and they show an average of five curves. The largest one (possibly two joined together) was 12·5μ with 10 curves. The shortest was 5μ with 2½ spirals. By micro-photographic measurement the average length was 7·8μ with an average of 5·2 curves. The thickness is about 0·3μ. The spirals vary in depth, which is a common feature also in *T. pallidum*.

Associated with the typical spirochæte were straight bodies, having the same measurement and the same staining properties and similar in appearance except that they possessed no distinct spirals. We have not included these in our positive findings, but as all intermediate stages were found between the typical treponema with its sharp spirals to the straight body, it is possible that the latter is a variation of the former. We have seen similar atypical forms in dried films of *T. pallidum*. Some of the typical forms show nodes or thickenings, as is also seen in *T. pallidum*. The spirochæte is thicker in the centre and tapers towards the ends, and some seem to show a faint flagellum at one or both ends. This spirochæte resembles the *T. pallidum* in many respects, but differs from it in that the average length is less and the spirals are fewer. It is about half the length of the *Spirochæta recurrenti* (Obermeieri).

We have not yet succeeded in finding this spirochæte in blood films or in cultivating it from the blood stream as Reimer claims to have done, nor have we, up to the present, done any work regarding its pathogenicity to man and animals.

We have to thank Captain A. R. Friel, S.A.M.C., for allowing us to use his electric centrifuge. We wish also to express our indebtedness to Captain E. W. Ferguson, A.A.M.C., who has been good enough to search some films for us and to check our findings, and to Private J. M. Stanley, who has done much of the routine work entailed by our investigations. Our thanks are especially due to Dr. A. C. Coles, who has measured 80 of these spirochætes for us and has prepared the admirable photo-micrographs which illustrate so clearly the subject of this paper.

The whole communication is clearly in the nature of a preliminary note.

OPERATION FOR THE REPAIR OF THE CRUCIAL LIGAMENTS.

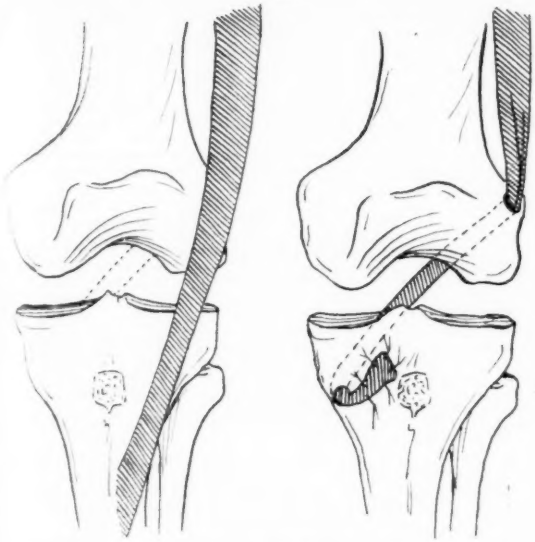
BY ERNEST W. HEY GROVES, M.S. LOND., F.R.C.S. ENG.,
MAJOR, R.A.M.C. (T.F.)

IT is a matter of common knowledge that cases of rupture of the crucial ligaments are now much more frequently recognised than formerly. This is due to routine X ray examination, which often reveals the fracture of one or other of the tubercles of the tibial spine, and also to the greater frequency of "exploratory" operations upon disabled knee-joints. It is also a general experience that this injury is an extremely serious one, which produces permanent total disablement for active pursuits and which necessitates a very prolonged treatment by immobilising apparatus.

But whilst the frequency and importance of this injury is becoming more widely known there has not been any corresponding advance in methods of treatment. A rigid plaster or leather case to be worn for a year, followed by a hinged apparatus, represents the generally accepted method. It is impossible to regard intra-articular suture of the ligaments either by soft sutures or by wire, as an efficient procedure or as one free from the risk of leaving loose bodies in the joint.

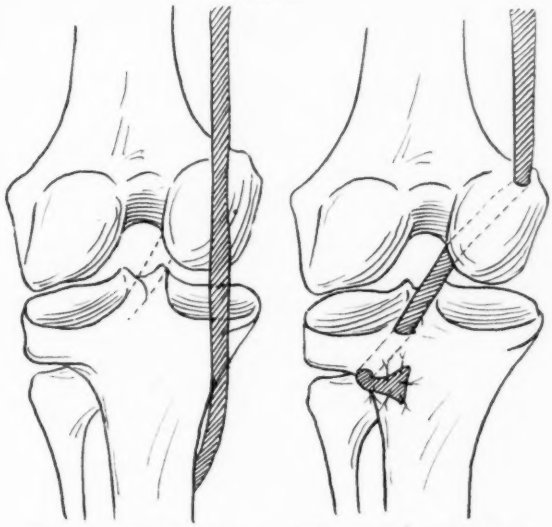
Some years ago I worked out a method of replacing the crucial ligaments by tendons or fascial bands, in the dissecting room, but it has only been recently that an opportunity has arisen for putting it to a practical test. It has, however, been so easy of performance and so

FIG. 1.



Formation of a new anterior crucial ligament from the ilio-tibial band of fascia.

FIG. 2.



Formation of a new posterior crucial ligament from the tendon of the semi-tendinosus.

satisfactory in results that I think it worth while to publish this preliminary note, in the hope that the new suggestion may prove of value to others.

Principle of the Operation.

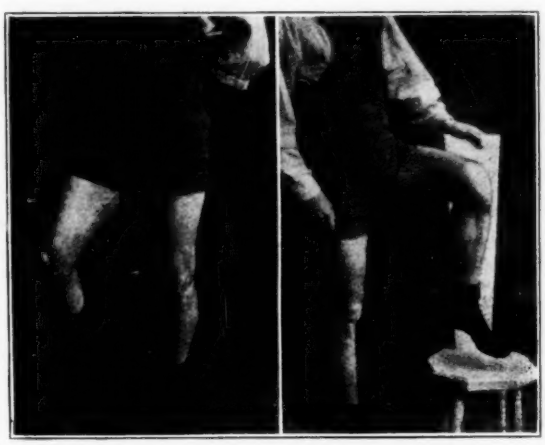
The principle of the operation consists in forming a new anterior crucial ligament from the ilio-tibial band and a new posterior ligament from the tendon of the semi-tendinosus. In each case the new ligament retains its upper attachment in the thigh and is threaded through new canals bored in the femur and tibia, and is sewn to the outer surface of the latter bone.

Exposure of the joint.—A wide horseshoe incision is made across the joint, the lowest point being below the tibial tubercle and the lateral ends running up to the lines of the hamstrings on each side. The tubercle of the tibia is freed by two saw cuts, one behind and parallel to the ligamentum patellæ and the other at right angles to the tibia below the tubercle. The patella is turned upwards sufficiently to expose the interior of the joint. In this act it is important to avoid cutting the ilio-tibial band. The joint is now fully flexed and the condition of the crucial ligaments and of the spine of the tibia is ascertained.

Formation of a new anterior crucial ligament.—The lower end of the fascia lata is exposed and defined upwards above the level of the external condyle of the femur and downwards for about an inch below the tubercle of the tibia. At the latter point it is cut across and dissected upwards free from the underlying structures. With the knee fully flexed, the two points of attachment of the torn ligament are clearly defined and cleared of soft tissue. With a ¼-inch twist drill a canal is bored from within the joint upwards and outwards through the external condyle of the femur and another downwards and inwards through the internal tuberosity of the tibia, beginning in each case with the point of attachment of the original ligament. A probe is tied to the free end of the ilio-tibial band and by its means this piece of fascia rolled up as a cord is threaded through the femur and the tibia and drawn tight. When it emerges below the knee the fascial ligament is turned upwards and sewn to the deep fascia and periosteum of the tibia. (Fig. 1.)

Formation of a new posterior crucial ligament.—If both ligaments have to be re-formed the posterior will naturally be repaired first. The inner limb of the horseshoe incision is prolonged backwards and upwards until the inner hamstring is exposed and the tendon of the semi-tendinosus is defined. This is cut from its lower attachment 1½ inches below the joint. New canals are then formed by drilling from within the joint upwards, inwards, and backwards through the internal condyle of the femur, and then downwards and outwards through the external tuberosity of the tibia. Through these canals the semi-tendinosus tendon is threaded and fixed to the periosteum of the tibia. (Fig. 2.)

FIG. 3.



Closure of the joint.—The tubercle of the tibia is refixed in its original position by an ivory or metal nail and the joint capsule carefully closed by catgut sutures.

After-treatment.—The knee is kept on a back splint for about a fortnight, and then when the skin incision is soundly healed it is removed daily from the splint for gentle massage and passive movements.

After one month the splint is discarded and the patient is allowed up on crutches, and then full use of the limb is gradually restored, as this can be done naturally without pain or force.

The above operation was performed on April 25th, 1917, for A. D., whose knee had been injured by a kick from a horse. His knee was unstable and weak, so that he could neither stand nor walk without the support of a knee-splint.

The recent photographs (Fig. 3) show the patient standing upon the injured left leg and also bending the same. He can walk freely without a limp and has now returned to work.

A REPORT ON

THE TREATMENT OF A SERIES OF RECENTLY INFLICTED WAR WOUNDS WITH "PROFLAVINE."

BY

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CAPT. J. E. McCARTNEY,
—— MOBILE LABORATORY.

THIS report on the action of proflavine in the treatment of recently inflicted wounds is to be read in connexion with a communication by Captain Hamilton Drummond and Captain J. W. McNee in THE LANCET of Oct. 27th, on the results obtained with acriflavine (flavine).

The sample of proflavine used in the present instance was put at our disposal by Surgeon-General Sir Anthony Bowlby early in August, and the tests have been made so that ready comparison of the effects of the two salts has been possible.

Proflavine (diamino-acridine-sulphate) is, as Browning and his colleagues have explained, a preliminary product in the manufacture of acriflavine or flavine (diamino-methyl-acridinium-chloride), and is therefore both easier and cheaper to make.

The cases described in this report have been under the care of the surgical officers of a Casualty Clearing Station (Captain Colledge, Captain Drummond, and Lieutenant Worthington), and the bacteriological work has been carried out in a mobile laboratory.

Scope of the tests.—The tests, for purposes of comparison, have followed the same lines as those detailed for acriflavine. A solution of 1 in 1000 in normal saline has generally been employed as a primary application, followed later by the use of a more dilute solution of 1 in 5000.

Number of cases, &c.—In all 43 cases have been treated with proflavine: in a number of instances, however, multiple injuries were present, so that nearly 60 wounds are included in the series. It has happened that the series of cases has included a large percentage of very serious injuries, so that the test of the antiseptic has been a severe one.

Classification of cases.—It seems unnecessary to classify the wounds in detail, but it may be stated that the cases include 7 in which large joints were involved (knee 3 times, shoulder twice, and elbow twice), 10 severe compound fractures of limbs, and 4 where large blood-vessels were injured.

A few illustrative cases may be given in detail.

A. *Wounds of joints.*—CASE 1.—Wound of the shoulder-joint with fracture of the great tuberosity of the humerus and very extensive muscle damage, necessitating removal of most of the deltoid muscle. The wound, after treatment with proflavine, was closed except for two small drainage-tubes. These were soon removed, and passive movements of the joint were begun on the twelfth day.

CASE 2.—Wound of the knee-joint. The foreign body was impacted in the spine of the tibia, and lying so far back between the condyles of the femur that complete exposure of the joint cavity by cutting through the ligamentum patellæ was necessary. The joint was sewn up completely after washing out with 1 in 1000 proflavine. On the second day about 10 c.c. of sterile blood-stained fluid was aspirated from the joint. The wound healed perfectly and passive movements were begun on the thirteenth day after the injury.

CASE 3.—A shell wound causing a compound fracture of the humerus, and opening up the shoulder-joint. The joint was extensively damaged, and the surrounding muscles were much lacerated. The wound was cleaned up as far as possible, but this proved very difficult. Large fragments of the upper third of the humerus were perforce removed, leaving a complete gap. The wound, which could not be closed, was treated with 1 in 1000 proflavine for the first four days, after which eusol was substituted. The wound is now healing quickly, and has never suppurated.

CASE 4.—A wound over the right patella, comminuting the bone and opening the knee-joint. A flap was turned up so as to expose the whole joint in front, and the foreign body and the shattered patella were both removed. The joint was irrigated with 1 in 5000 proflavine, after which both the wound of entry and the flap wound were completely closed. Healing by first intention occurred.

B. *Compound fractures.*—CASE 1.—An aviator, shot while flying. A machine-gun bullet fractured the left tibia and fibula, causing also great destruction of the muscles of the calf. The posterior tibial artery was torn across, and ligatures were put round both artery and vein. The wounds were packed with gauze soaked in 1 in 1000 proflavine, and left untouched for 36 hours. No inflammation occurred, and the patient was able to be evacuated to the base on the tenth day.

This case is noteworthy as being the most serious compound fracture of a leg which one of us (H. D.) has seen recover without amputation. The notorious frequency of gas gangrene in cases of this kind, where the posterior tibial vessel has been destroyed, must also be remarked upon.

CASE 2.—A severe compound fracture of the femur. The site of fracture was exposed by joining the entrance and exit wounds, cutting through the vastus externus completely in the middle third of the thigh. Several large detached fragments of bone were removed. The cavity was washed out with 1 in 1000 proflavine, the muscle sutured with catgut, and the wound was then closed except for one Carrel tube inserted from the site of the entry wound. The Carrel tube was removed on the fourth day, no suppuration whatever having occurred. This patient was evacuated to the base on the sixth day after injury.

CASE 3.—A gunshot wound of the forearm, causing compound fracture of the ulna and very considerable laceration of the surrounding muscles. The entrance and exit wounds were opened up and damaged muscle and fragments of bone removed. The wounds were irrigated with 1 in 1000 proflavine and thereafter completely stitched up except for a drainage-tube, down to the bone, left in the anterior wound. The drain was removed on the following day, and both wounds healed by first intention.

C. *Wounds involving blood-vessels.*—Four cases occurred where large blood-vessels were injured. The injuries involved the axillary, brachial, and radial arteries on the same arm, and the superficial femoral vein and a large branch of the femoral artery on the same leg. In all cases the surrounding muscles were much damaged. It is sufficient to record that, after dealing with the vessels, all the wounds were completely sewn up after treatment with proflavine, and all healed without the least trouble.

Results of Treatment with Proflavine.

In the wounds treated by primary suture excellent results were obtained; in only one case out of 20 was it necessary to remove some of the stitches for drainage.

In some cases stitches were placed *in situ* at the time of operation and the wound left open with gauze packing for a day before the stitches were drawn tight. In all of these healing occurred as by first intention.

In wounds where primary closure was impossible owing to the amount of tissue removed the same set of changes occurred as were described for acriflavine. These changes were well seen in a case of amputation through the thigh and in some large wounds of soft parts. The surface of the wound became covered after a few days with a firm yellow pellicle and granulation tissue production was very slow. These wounds were then changed to other antiseptics, such as eusol. One case of gas gangrene occurred in the series, and a full account of this patient will be given.

An officer was admitted with a severe penetrating wound of the chest and severe shell wounds of the buttock. He was so much shocked on admission that nothing could be done for 12 hours. The buttock wounds were then drained and packed with gauze soaked in 1 in 1000 proflavine. The missile could not be found in any of the three buttock wounds. The patient remained in very poor condition, chiefly owing to the severity of the chest wound, and after 24 hours an acute gas gangrene developed in the buttock. A fatal issue rapidly ensued.

Apart from this case no example of spreading sepsis was met with in the whole series of cases.

Bacteriology of the Wounds.

This can be dismissed very briefly, as the results are identical with those described for acriflavine. The same persistence of infection with coliform bacilli in the later stages of the wounds was again very noteworthy, and pyocyaneus infections were also common.

"In Vitro" Experiments with Proflavine.

The same technique was adopted as that detailed in the report on acriflavine, and coliform bacilli isolated from wounds were used for the tests. In this instance parallel tests were set up with acriflavine and proflavine so as to compare the results.

In an experiment where the two salts were dissolved in normal saline growth of the coliform organisms used still occurred in a dilution of 1 in 50 of each substance. When dilutions were made in fresh human serum, the results of the test with the same organism were as follows:—

	Proflavine.	Acriflavine.
1 in 500 ...	No growth.	No growth.
1 in 1500 ...	,, ...	,,
1 in 3000 ...	,, ...	,,
1 in 5000 ...	,, ...	Slight growth.
1 in 10,000 ...	Growth.	Growth.
1 in 20,000 ...	,, ...	,,

These results seem to show that there is virtually no difference in the action of the two salts in test-tube experiments on the same test organism.

Conclusions.

As tested in the treatment of a series of recent wounds, there appears to be no differences in the properties of the two substances acriflavine and proflavine. All the conclusions drawn in the previous report on acriflavine therefore hold with regard to the more easily produced "proflavine."

Sept. 10th, 1917.

RATIONS IN RELATION TO DISEASE IN MESOPOTAMIA.[1]

BY W. H. WILLCOX, C.M.G., M.D.LOND., F.R.C.P.LOND.,
COLONEL, A.M.S.; CONSULTING PHYSICIAN, FORCE "D."

THE importance of selecting a correct scale of rations for the soldier was very great. Many considerations had to be borne in mind, viz.: (1) The physiological value of the ration; (2) the total daily vitamine value of the ration; (3) ability to provide the various necessary items; (4) the possibility of transport of the components of the ration along a long line of communications in great heat; and (5) economical considerations.

[The Ration Scale of G.R.O., I.E.F. "D.," July 4th, 1916, and the revised scale of G.R.O., I.E.F. "D.," Oct. 31st, 1916, were carefully considered.]

British Ration.

In each ration scale there was a very good ration, provided that facilities as regards climate, transport, &c., permitted the full supply of the various items. The physiological value of each ration scale was good, there being an ample but not extravagant margin of protein, fat, and carbohydrate. The vitamine value of each scale was adequate. Trouble arose when, owing to difficulties of transport and intense heat, there was difficulty of supply of fresh meat and fresh vegetables, &c.

Indian Ration.

In the ration scale of July 4th, 1916, the Indian ration showed a deficiency of protein and fat, and a large excess (100 per cent.) of carbohydrate. The revised ration scale of Oct. 31st, 1916, showed, if "atta" (Indian flour) were supplied, an adequate amount of protein and fat, but the carbohydrate was in large excess (70 per cent.). If rice were substituted for atta then there was a deficiency of protein and of fat, while the carbohydrate excess reached 100 per cent.

It is interesting to compare the rice or atta issue to Indian troops in the revised ration scale, viz., 1½ lb. per day or 10½ lb. per week, with the flour or bread issue to the civil population in England in the voluntary ration system which has been introduced. The Indian allowance is more than double of the latter.

Diseases Due to Variations in the Ration Supply.

Anæmia and Debility.—These occurred in the summer in both British and Indian troops, when, owing to transport difficulties and the great heat, the supply of fresh food (meat, vegetables, and fruit) was short.

Vitamine Deficiency Diseases.

Scurvy.—This was limited to Indian troops, practically no cases occurred in British. The Indians have very little reserve against scurvy, and in their own country often are on the borderland of scurvy. If he is subjected to deprivation of antiscorbutic vitamines in his dietary the Indian readily falls a victim to scurvy, while the British soldier remains immune. In the hot weather of Mesopotamia the supply of fresh vegetables of necessity was much reduced and it was owing to this, and the action of the heat itself on the bodily functions, that in the months May to September scurvy was of frequent occurrence in Indian troops. Fresh meat undoubtedly has an antiscorbutic value, and the inherent dislike of this by some of the Indian troops is one of the factors of the occurrence of scurvy amongst them.

The antiscorbutic value of various articles in the ration scale was considered—e.g., sour limes, potatoes, onions, spinach or fresh vegetables, fresh fruit (all have a high antiscorbutic value). Dates and raisins were no doubt antiscorbutic; tamarind eaten as a chutney, or as an acid drink after infusion and sweetening, was, no doubt, antiscorbutic. "Coccum" had a reputed antiscorbutic value, but as it was often wasted and in any case of little value it would be well for it to disappear from the ration scale for Indians. As already stated, fresh meat has undoubted antiscorbutic value. Tinned fruits and dried vegetables have probably little antiscorbutic properties, since the process of preparation has very likely destroyed their vitamines. Tinned milk has little, if any, antiscorbutic value owing to the destruction of the vitamines by sterilisation. For the same reason pickles probably have little antiscorbutic value. Fresh milk is well known to be antiscorbutic, but the dangers of supply of this to troops, owing to the risk of cholera or enteric group infection, entirely prevent its issue to troops in the field. Lime-juice has had a long reputation as an antiscorbutic. If made from fresh limes and not kept too long before its issue to troops it is undoubtedly a valuable preventive of scurvy. Measures have been taken to ensure a supply of efficient lime-juice of good antiscorbutic value to the troops in Mesopotamia. Probably the most valuable antiscorbutics are fresh sour limes and raw potato. Raw potato can be made into a palatable salad by being cut up into small slices and mixed with onion and a little vinegar. In this way it has been used with great success in the treatment of early scurvy.

Beri-beri.—This disease has occurred in British troops, but practically no cases occurred in Indians, if one excludes the Indian prisoners taken at Kut and afterwards exchanged by the Turks. The occurrence of beri-beri is in the winter months—e.g., December and January, unlike scurvy, which occurs in the hot months. In December, 1915, and January, 1916, a number of cases occurred in British troops. Beri-beri has been shown to be a vitamine deficiency disease. The anti-beri-beri vitamines occur in the aleurone layer of the grain beneath the husk and also in the germ of the grain. The British flour, owing to its excessive refinement, involving the almost complete removal of the aleurone layer with the husk, and also of the germ, is not protective against beri-beri. The Indian flour, "atta," contains the aleurone layer and the germ of the wheat grain, so that it is protective against beri-beri. Also the "dhall" in the Indian dietary is protective against beri-beri. It is for these reasons that the Indian does not run the risk of getting beri-beri.

On medical advice the British ration after July, 1916, was made to include oatmeal and at times "dhall"; also yeast has been well known to be rich in anti-beri-beri vitamines.

Researches were carried out by the War Office, and it was found that an extract of yeast made under special conditions was extremely rich in anti-beri-beri vitamines. This has been issued to the British troops in Mesopotamia since the autumn of 1916 as a ration under the name of "marmite." Marmite is in taste and appearance like extract of meat, and can be taken as it is or in stew or soup.

It has been interesting to note that very little beri-beri has occurred in the British troops in the winter of 1916, and not a single death has occurred from this disease. The cases that have occurred have been of a very mild character.

A very convenient method of providing the British soldier with anti-beri-beri vitamines is to make his bread of a mixture of British flour and "atta." This bread is very palatable, and has a high protective value against beri-beri. The trial has been made with success in the force in Mesopotamia.

As regards "economic considerations," a considerable saving without any lack of efficiency could be secured by reducing the excessive ration issue of "atta" and rice to Indian troops, provided that the small amounts of protein and fat in the withdrawn carbohydrate food were replaced in other ways.

[1] Abstract of a lecture delivered before the "Amara Clinical Society," Dec. 29th, 1916.

AT a meeting of the medical men practising in the Exeter division of the British Medical Association, held on Oct. 25th, a resolution was unanimously passed in favour of opposing Clause 18 of the Education Bill, 1917, whereby power is granted to all schools to procure treatment by whole-time men for the pupils. The opinion of the meeting was that it is not to the interest of the public that the treatment of young people should be taken out of the hands of the family doctor.

THE INFLUENCE OF HYPNOTIC SUGGESTION ON INFLAMMATORY CONDITIONS.

BY J. ARTHUR HADFIELD, M.A. OXON., M.B. EDIN.,
TEMPORARY SURGEON, R.N.

THERE has from time to time been considerable controversy as to whether it is possible to produce blisters on the skin by hypnotic suggestion alone. Having been fortunate enough recently to have a very susceptible patient (Leading Seaman H. P.) in the Royal Naval Hospital, Chatham, I have succeeded in producing this phenomenon. The following series of experiments in my opinion, and in that of the surgeons who took part, leaves no doubt on the question as to its possibility.

Blisters on Skin caused by Hypnotic Suggestion.

1. In the first instance the blister was produced somewhat unexpectedly. I had hypnotised the patient, whom I was treating for "shell shock" symptoms, and was exhibiting to another surgeon one or two sensory phenomena produced under hypnosis, including the suggestion to the patient that I was touching him with a red-hot iron. When I touched him with my finger he withdrew his arm with such evident pain that I proceeded to suggest that a blister would form. I then wakened him, and thought little more about the matter. But half an hour later the patient returned and asked if I had done anything to his arm when he was hypnotised, as it was painful and burning, and he pointed to a blister which was indeed forming and ultimately became full of fluid and surrounded with hyperæmia. This experiment, however, I did not regard as conclusive, because the patient had scratched the part, and it might be argued that this alone had produced the blister. In any case, probably the scratching *accelerated* the formation of the blister. It is worth noting, however, that the patient knew nothing of my intention nor remembered anything of my suggestion during hypnosis. I therefore explained to him what I had done and asked his coöperation, inasmuch as it implied the suffering of pain; this he readily gave.

2. The next experiment was performed under strict conditions. The patient was hypnotised as before, and the suggestions made that his arm was being touched with a red-hot iron and that a blister would form. He was watched for about three hours, part of the time being spent under hypnosis and part in the waking state. The arm was then bandaged up with a large roller bandage, so that it would be impossible for him to interfere with the area touched; the bandage was pinned with a safety-pin, the pin sealed with sealing-wax, and the patient sent to the ward. I returned in six hours from the commencement of the experiment, and the patient told me that in spite of his desire to assist he had twice nearly sent across to the officers' mess to ask me to put him out of his pain, but he went on to say that after five and a half hours the pain had suddenly ceased. When I removed the bandage I found that *a blister had formed on the spot I had touched*. There was a white patch of dead skin in the centre, underneath which was a slight amount of fluid and hyperæmia around. The part was then left exposed. Meanwhile the blister increased in size, and by the next day there was a large quantity of fluid, giving the exact appearance of a blister produced by heat.

3. This experiment was repeated under still stricter conditions a few days after. This time the lateral aspect of the upper arm was chosen instead of the anterior aspect of the forearm. Suggestions were made in the same manner as before, but the following stricter precautions were taken. I was personally never left alone with the patient; the patient was never left alone; and I personally never touched the arm of the patient, this being done by another surgeon present, whilst I made the verbal suggestions. Throughout the day the patient was watched, and at night-time he was not only watched by the night nurse, next to whose table his bed was placed, but his arm was securely bound up and sealed as before. The next morning the bandage was removed in the presence of three surgeons (including the Deputy Surgeon-General). The seal and bandage were found to be intact, and beneath there was on the spot suggested the beginning of a blister as before, which gradually developed during the day to form a large bleb with an area of inflammation around. Photographs were taken of this blister. In this case the bandage was removed in 24 hours after the experiment was started as contrasted with 6 hours in the second experiment. The increase in time taken for the blister to form in this case was partly due to the fact that the arm was for some hours exposed to the cold air; and also probably to the extra thickness of skin in this part of the arm as compared with the anterior surface of the forearm used in the second experiment. I may add that the patient was kept "asleep" for about half the time and "awake" the other half, but for the whole time, except in the normal sleep at night (which was, however, induced by means of hypnotism), the patient showed signs of being in pain. The patient had his dinner while hypnotised, and also went to his ward, undressed, and got into bed in hypnotic trance.

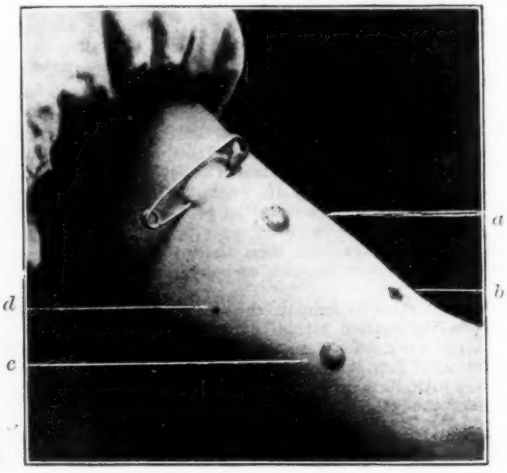
4. When I touched one spot with the finger suggesting that I was touching the spot with a red-hot iron and causing pain, I also touched another spot suggesting the same thing, but adding that the patient would feel *no pain* in this one, but that a blister would form. In this case no blister formed. This seems to indicate that it was the suggestion of pain, and perhaps continuous pain, which produced the blister.

Effect of Suggestion of "No Pain" and "Pain."

5. In the fifth and sixth experiments I *actually burnt* the patient during hypnosis with a hot iron—the end of a steel pencil-case heated in a Bunsen flame. In the fifth experiment (carried on simultaneously with the second) I suggested there should be *no pain* as a result of these burns. There was no pain either when the skin was touched or afterwards. But the remarkable thing was that in these burns there was *no hyperæmia* around. Round each of the two spots, which themselves presented the ordinary appearance of blisters, there was a thin red line and nothing more. These blisters healed very rapidly and never gave any sign of inflammation or pain.

6. Further, simultaneously with Experiment 3 I made an *actual burn* and *suggested pain*—the condition, of course, which would occur in the normal waking state, except that in this case the patient, being hypnotised, forgot all about it when he was "wakened." This continued to pain afterwards, and in this case there was very considerable hyperæmia, and the burn took longer to heal.

The illustration from a photograph taken professionally a few hours after the blister formed in Experiment 3 shows:



(*a*) Blister produced by suggestion (Exp. 3); (*b*) blister produced by hot iron—with pain (Exp. 6); (*c*) blister produced by hot iron—without pain (Exp. 5); (*d*) area which was touched as in (*a*), but with the suggestion "no pain"; no blister was formed. The safety-pin was introduced through the flesh to indicate the reality of the hypnosis and the analgesia produced by suggestion.

Conclusions.

These experiments, it will be noted, are all in the sphere of *non*-bacteriological inflammations. I had intended proceeding to experiment with bacteriological inflammation, but the demands of the Service compelled me to postpone it. The experiments, however, point to conclusions of some importance, namely:—

(*a*) The effect of pain in retarding healing processes. The heat blister produced in Exp. 5, where there was pain, reacted considerably and also took longer to heal than the blister with no pain produced in Exp. 5. This confirms, by experiment, the suggestions put forward by Hilton in his "Rest and Pain" that pain may act as a deterrent to healing. He therefore advocated that the nerve-ending of an irritable pain-producing nerve in a wound should be clipped

off. These experiments under hypnosis suggest that if a patient can be hypnotised deeply enough and pain be abolished the healing process would be greatly facilitated. This might apply not only to surgical conditions, but also to medical conditions such as pleurisy. Pain is a very valuable indicator to point us to physical disorder or injury, but this seems to exhaust its function, and its abolition, either by the surgical means suggested by Hilton or, if possible, by hypnotic means, would conduce to greater rapidity in healing.

(*b*) The regulation of the blood-supply. It is a well-known fact that hyperæmia may be produced by suggestion. The experiments made in producing blisters show to what lengths this regulation of the blood-supply can go in a susceptible patient. This seems to indicate that when we know more about hypnotic suggestion, and have attained a greater skill in inducing it in a larger proportion of patients, we may be able to affect for good *any* organic inflammatory condition whether medical or surgical, both by regulating the blood-supply (imitating Bier's congestion method, for instance) and also by the abolition of pain.

I do not suppose for a moment that these experiments will convince those who are unacquainted with hypnotic work, and some of whom deny even the existence of hypnotism altogether. But they were conducted under the strictest scientific conditions, and were such as to satisfy the surgeons, of whom there were eight or nine, who had a share in them. Moreover, in order to show my good faith in the matter, I am quite prepared to repeat the experiments under any conditions that may be considered necessary, when the exigencies of war permit of my doing so, provided I can obtain the consent of the patient, to whose endurance during several hours of pain I am indebted for the opportunity of conducting the experiments, and by whose permission, as well as that of the Surgeon-General of the Royal Naval Hospital, Chatham, I am enabled to publish them.

A CASE OF

EPILEPSY CURED BY REMOVAL OF CALCAREOUS INTRACRANIAL TUMOURS.

BY THEODORE THOMPSON, M.D. CANTAB., F.R.C.P. LOND., F.R.C.S. ENG.,

PHYSICIAN TO THE LONDON HOSPITAL AND THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET; CONSULTING PHYSICIAN TO KING EDWARD VII. HOSPITAL FOR OFFICERS, ETC.;

AND

ALBERT J. WALTON, M.S., F.R.C.S. ENG., M.B., B.SC. LOND.,

CAPTAIN, R.A.M.C. (T.); ASSISTANT SURGEON, LONDON HOSPITAL.

APART from Jacksonian epilepsy—that is, attacks which indicate a definite cerebral place of origin of the convulsion—there are a numerous group of diseases where attacks may occur which simulate the features of so-called idiopathic epilepsy. These may occur in conditions of general blood poisoning such as arise from intoxications by lead, arsenic, alcohol, morphine, or from uræmic states. They may also occur in diffuse diseases of the brain, such as dementia paralytica, multiple sclerosis, cerebral syphilis, or meningitis. A careful consideration of the history and general signs exhibited by the patient will, as a rule, exclude these cases of epileptiform attacks consequent on general blood poisoning or diffuse cerebral disease. There remains, however, a small group of cases where typical epileptiform attacks may be the result of a small local lesion of the brain. The lesion may be so situated that no indication is given of its situation by the nature of the convulsions, and the differentiation of these cases from true idiopathic epilepsy will depend on the mental state of the patient. In the latter condition there appears in the majority of cases a gradual transformation of the entire psychic being, affecting the intelligence of the patient (epileptic degeneration), and in the severe forms of the disease terminating in a condition of marked dementia. It follows that in any chronic case of epilepsy, in which the character and intelligence of the patient are maintained at their normal level, a most careful investigation should be made to endeavour to discover a local cerebral lesion which might be the cause of the epileptiform attacks. In the majority of cases no definite lesion is found and there are but few cases on record in which operative treatment aiming at the removal of a localised lesion has been followed by successful results. In this respect it is important to remember that any operation upon the head or even upon any other part of the body may be followed by complete relief of the epilepsy for several weeks with subsequent recurrence of the fits, and unless this fact be borne in mind one is prone to believe that such an operation has removed the causative factor of the fits.

In the following case of what was apparently a chronic condition of epilepsy dating from childhood, but in which there was only slight evidence of change in character or mental condition, an examination of the skull by the X rays revealed the presence of a calcareous mass in the temporo-sphenoidal lobe, the removal of which has caused a complete cessation of the epileptiform seizures for the past two and a half years. The details of the case are as follows:—

R. S., male, aged 23, was sent to the hospital with a note from the physician stating that he had had epilepsy for many years and asking whether a radiograph of the skull might throw any light on the condition present. The patient stated that ever since the age of 4 he had had fits. He had kept a careful account of these fits and stated that there had been six major ones and 193 minor ones. In the major fits there was a definite aura a few minutes before the attack. During the fit he would fall, be quite unconscious, and would bite his tongue. There was no incontinence. This was followed by a period of prolonged sleepiness, and after this by a severe headache. In the minor fits there would be a slight warning and a sensation of giddiness. He would not fall, but nearly always uttered an involuntary cry. The attack would pass off in a half to one minute, but would leave him a little drowsy. When a child he had a course of bromides with good effect, and lately this has been repeated, but the drug seems now to be of but little value in controlling the attacks.

No history could be obtained as to the condition of his health at the onset of the fits, and there was no evidence of any severe lesions such as meningitis. He has found lately that he has been unable to do mental work, especially mathematics, and for the last two years his memory has been poor. He now finds he is less able to do physical work. He tried a course of farming in Canada, but was unable to continue with it. There was no family history of epilepsy or other nervous disease, and he and his parents were total abstainers. On examination there was no evidence of mental deterioration, and, in fact, his intelligence was rather above the average. There were no physical signs in the motor or sensory systems, and his cranial nerves showed no change. There was some deafness on the right side, but this did not appear to be due to any change in the internal ear. The vascular and respiratory systems were normal.

Owing to the request of the physician a radiograph of the head was taken, and it was then seen that there were two large apparently cancellous bony masses attached to the upper and posterior aspects of the right petrous bone. (Fig. 1.) The more anterior of these was somewhat pedunculated and projected into the cavity of the skull for a distance of 1 to 1½ inches. The nature of these tumours was somewhat doubtful, for although they appeared to be formed of cancellous bone, it was realised that osteomata within the skull are nearly always dense and of the so-called ivory variety. In view of this appearance and the right-sided deafness a report on the condition of the ear was requested from Mr. Hunter Tod. He kindly examined the patient, and reported that there was slight middle-ear deafness on the right side. The seventh and eighth nerves were not affected, and he did not think that the deafness was due to the bony growth.

The patient was admitted to the medical service on May 31st, 1915, and was transferred to the surgical service on June 16th following. During this period he had five or six fits a day, nearly all, however, of the minor variety. On June 16th an operation was performed. After preliminary injection of morphia and atropine and under ether anæsthesia a large osteoplastic flap was made in the right temporal region. The bone flap was square in outline, the size of the square measuring 3½ inches. The flap was made by cutting four holes through the skull with a trephine and uniting these trephine openings by means of a Gigli's saw, the underlying dura being carefully protected. The dura at the base of the skull was carefully elevated from the middle fossa until the bony mass was reached. It was then seen that these projected into the dura, their irregular surfaces being very adherent to the thinned-out dura. An attempt to free the dura from them soon showed that this would not be possible, even although a certain amount of the temporal bone and greater wing of the sphenoid was removed below

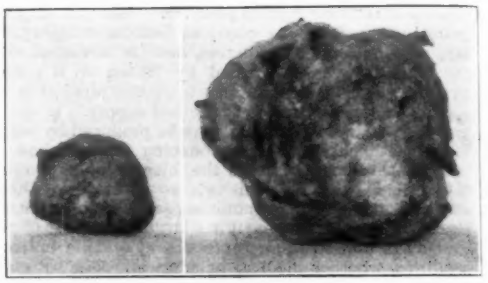
FIG. 1.

Lateral view of skull showing bony tumours attached to petrous bone.

the level of the osteoplastic flap. The dura was therefore freely opened and the temporal lobe elevated by wide malleable copper retractors. By this means a very good view of the tumours was obtained, and it was seen that they projected into pits in the brain lined by pia arachnoid, having, in fact, much the same relationship to the brain as is found in cases of endotheliomata of the dura. With care it was possible to entirely free them from the brain, this latter structure being gradually elevated. The thinned-out overlying dura was then incised and the tumours gradually freed down to their point of attachment to the petrous bone. By pressure they were then easily broken off the petrous bone, the surface of which was smoothed with a chisel. The brain was then allowed to drop back into place, the dura was sutured, and the osteoplastic flap replaced in position. The portions of bone removed consisted of two separate tumours, the larger of which had been attached anteriorly. This was about 1½ inches in diameter, was roughly lobulated, and was covered with fragments of dura. (Fig. 2.) With a knife the outer surface was felt to be formed of bone. The smaller tumour, which had been attached slightly posteriorly, was about three quarters of an inch in its longest diameter and was rather smoother. (Fig. 2.) It also apparently consisted of hard bone. The tumours were sawn in half, and it was then seen there was only a thin outer casing of bone with a few septa, the centre portion consisting of a rather firm caseous-like material. Portions of the tumour were decalcified and cut, and Dr. H. M. Turnbull reported "calcareous impregnation of psammoma bodies and formation of lamellar bone in periphery of necrosed angiofibroma of dura of petrous bone." The stitches were removed on the tenth day, there being primary union of the wound. The bony flap was in good position, as there had been no increase of intracranial pressure. (Fig. 3.) He had had no fits since the operation.

On July 7th he was discharged from hospital to the convalescent home in good health, the wound being firmly healed.

FIG. 2



Photograph of tumours after removal.

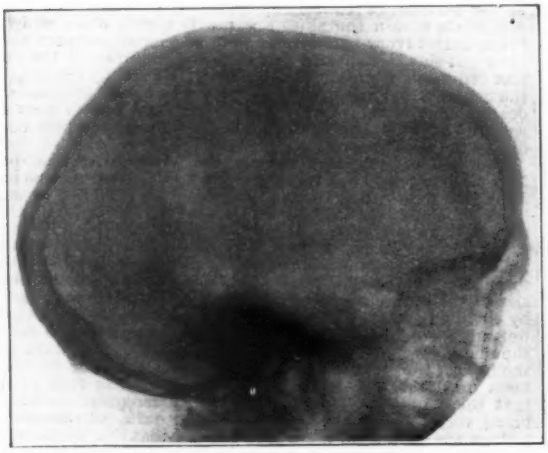
On Oct. 6th—that is, four months after the operation—he was seen again. There had been no return of the fits, although in the interval he had been taking no bromides. There was no pain in the head and the flap fitted perfectly and firmly. The radiograph showed that union was taking place at the edges of the flap, and there was no evidence of any irregularity on the upper surface of the petrous bone.

Oct. 10th, 1916: Since the operation there have been no fits. He has been in perfect health and has been engaged in business for eight months. He is able to carry this out satisfactorily and is never troubled with loss of memory or inability to do mathematics. The long flap is in perfect position and the trephine openings feel much smaller. There is no tenderness at the site of the operation.

April 24th, 1917: He still feels perfectly well and is free from all symptoms. He is able to carry out his work perfectly and feels in every way a normal man. He has had no fits or minor attacks since the operation. The scar is invisible; the trephine openings can barely be felt, and the X ray photograph (Fig. 4) shows considerable new growth of bone at the site of the trephine openings and the edges of the flap, which is firmly united in position.

That the fits were due to the presence of the tumours is quite clear. At first it was feared that the improvement was temporary and was due to the shock of the operation, a condition often seen when operations are performed on any part of the body of an epileptic. He has now, however, been carefully watched for a period of over two years and during the whole of this period has not had a single attack either of the major or the minor variety. His mental condition and his memory are good, and his power of application has greatly increased, so that there is now every probability that he is permanently cured.

FIG. 3.



Lateral view of skull showing bony flap replaced in position.

FIG. 4.

Lateral view 24/4/17 showing bony plate uniting at edges. Trephine holes decreasing in size.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

The Use of Nitrous Oxide and Oxygen with Regulated Rebreathing in Military Surgery.

A MEETING of this society was held on Oct. 29th, Sir STCLAIR THOMSON, the President, being in the chair.

Captain H. EDMUND G. BOYLE, R.A.M.C. (T.), read a paper on Experiences in the Use of Nitrous Oxide and Oxygen with Regulated Rebreathing in Military Surgery at the 1st London General Hospital. His paper appears in full on p. 667 of our present issue.

Colonel D'ARCY POWER confirmed all Captain Boyle had said from the surgeon's point of view. He asked what amount of experience it was necessary for an anæsthetist to have before using the method on a large scale. Unless care were taken the patient was likely to come out from the anæsthetic, as it was on the light side.

Dr. DUDLEY BUXTON said that before using the method much care and experience were necessary, and he emphasised the importance of rebreathing. There were two schools: one held that there was always some cyanosis, the other that cyanosis was dangerous and should be avoided. He agreed with the latter and considered that cyanosis was not a necessary accompaniment of anæsthesia, and cyanosed cases were always worse afterwards. He thought it better to give the alkaloids an hour before the operation, and laid stress on the importance of silence during induction, for which there should be a separate room.

Mr. HERBERT PATERSON said that he was associated with Captain Boyle at Queen Alexandra's Hospital for Officers, Highgate. One drawback to the method was that when gas and oxygen were given for abdominal operations patients suffered severe pain for about 12 hours afterwards. He thought the reason was that the intestine was not paralysed, as is the case after ether and chloroform, so that peristalsis continues for longer; but morphia could be given. One great advantage was the absence of nausea, which might last three days after the administration of ether. He then alluded to the very slight post-operative rise of temperature. After clean operations, performed under aseptic conditions, some rise of temperature was regarded as usual, but he had come to the conclusion, after working at Highgate, that—speaking of clean operations only—the average post-operative rise of temperature with gas and oxygen was one degree lower than in similar operations in London performed under chloroform and ether. Mr. Paterson then showed temperature charts of patients operated on for appendix and hernia, illustrating the difference in temperature between those who had gas and oxygen and those who had chloroform and ether. In the former the highest temperature was 99° F., whereas in the latter it usually rose to about 100°. In some cases in which gas and oxygen had been given there was no rise of temperature at all. He thought there was no comparison between gas and oxygen in experienced hands and chloroform and ether. Gas and oxygen were first given for long operations in 1895, but since then the technique was much improved. The late Sir Frederic Hewitt and Mr. Bellamy Gardner used it in 1895, and it was re-discovered in America in 1897. He considered it most difficult to give. Six months' or even a year's experience was needed before it could be given satisfactorily from the surgeon's point of view. It might make the operation more difficult to do, but the patient was safer and was more comfortable afterwards, and fatalities were less frequent.

Colonel H. J. WARING said that, owing to the very short time needed for induction, much of the surgeon's time was saved. The following classes of case were suitable for gas and oxygen: (1) Septic cases, and patients requiring severe operations; (2) operations on patients who were extremely ill, as there was very little shock; (3) operations on old people, as there was not the same danger of bronchitis. The method was not suitable for muscle-splitting operations, such as operations on the gall-bladder, but was good for operations for enlarged prostate and septic operations. He thought that the small amount of suffering by the patient was a very important point, and he gave instances illustrating very quick recovery from the anæsthetic.

Mr. J. H. CHALDECOTT said that his own experience of gas and oxygen dated from the publication of Crile's paper in this country. It was then used combined with local anæsthesia, and he had so used it at St. Mary's for abdominal operations. He considered it good combined with local anæsthesia; the gas and oxygen provided unconsciousness; the local anæsthetic provided anæsthesia. He never gave gas and oxygen alone for gall-bladder operations, but combined with novocaine it was excellent and gave no after-trouble. Referring to the management of cases, he said that (1) a good airway should be ensured before starting; (2) there should be silence during the induction and during anæsthesia; and (3) the anæsthetic should be continued until the patient was on the trolley and not stopped while he was still on the operating-table, or he would come round. He thought it was important that the patient should be placed in position for operation before induction.

Mr. MCADAM ECCLES objected to the tooth-prop, as patients complained of it. He wished to know something of the cost of the method as compared with ether and chloroform. He thought the weight of the apparatus would make it inconvenient for use in many instances, such as for operations performed in private houses. Owing to the quantity required, gas might run out in the middle of the operation. What could be done under such circumstances? He thought the after-pains were due to the intestine not being paralysed and peristalsis still going on. He found that hot water in rubber bottles placed on the abdomen relieved pain. He insisted on the need for quiet before induction and thought the alkaloids were important in this connexion. The patient should never be touched during induction by anyone but the anæsthetist, and should be placed for preference on the operating-table before induction. The rapidity of induction allowed this without loss of time to the surgeon.

Dr. F. E. SHIPWAY said that one point not touched upon was that rebreathing introduced a new element—namely CO_2, which acted as a stimulant to the respiratory centre, and therefore produced a different type of anæsthesia. He asked what was the percentage of CO_2 in the bag, and said that with an increase of CO_2 and diminution of oxygen a heart was being stimulated which was already starved of oxygen and would easily become dilated. In America a good many deaths were known to have occurred under gas and oxygen. He suggested that the percentage of CO_2 in the bag should be worked out. He thought the stimulation of medullary centres by CO_2 was the cause of vomiting during and after anæsthesia; the amount of CO_2 should be reduced as much as possible. There was urgent necessity for research in anæsthesia, both scientific and physiological, and money was needed to carry it out.

Mr. HUGH LETT thought that gases should be heated and that the administration of unheated gases might be the cause of the bronchitis which occurred.

Mr. BELLAMY GARDNER said there was great danger in trying to rely solely on gas and oxygen. When vomiting occurred during anæsthesia it was not possible to overcome the consequent clo-ing of the air-passages by narcotising the vomiting centre further, as could be done by ether or chloroform. He thought the advantages of the method were not compensated for by the disadvantages of which the patient was ignorant.

Dr. HUGH R. PHILLIPS said the effect of gas and oxygen combined with local anæsthesia depended upon the method of local anæsthesia employed. If complete in all layers the result was very good. Silence was of more importance in this method than in any other; the patient should be placed on the table some time before induction was begun. The disadvantages of the method were the weight of the apparatus and the expense. The cost of gas and oxygen and sufficient ether was about 10*s.* to 12*s.* per hour.

The PRESIDENT noted the remarkable absence of shock in some of his operations—e.g., in resection of septum and laryngo-fissure, the latter requiring a good deal of manipulation. He accounted for it by the fact that a local anæsthetic was always used.

Captain BOYLE said that the amount of experience needed depended entirely upon the personality of the administrator. Some learned the method very quickly. He thought the cost was about 7*s.* 6*d.* per hour. The apparatus weighed about 65 lb. There was no need to heat the gas, as it was heated by patient's breathing. If the gas ran out it was easy to pass the oxygen through the ether and give that combination for the remainder of the operation.

THE ASIATIC SOCIETY OF BENGAL: MEDICAL SECTION.

Leprosy Cases Treated by Sodium Gynocardate and Chaulmoograte Intravenously.

A MEETING of this section was held on Sept. 12th, Lieutenant-Colonel Sir LEONARD ROGERS, I.M.S., Vice-President, being in the chair.

Sir LEONARD ROGERS showed 12 cases of Leprosy, together with coloured drawings, photos and lantern slides of cases taken before and after treatment with sodium gynocardate and chaulmoograte intravenously. In February, 1916, he had recorded in THE LANCET promising results in the disease by the use of gynocardates orally and subcutaneously, and in October of the same year he described in the *British Medical Journal* the intravenous use of the same drug. He had now had a further year's experience and had treated a number of advanced cases for sufficient time to eliminate temporary spontaneous improvement and to allow a fairly definite opinion to be formed regarding the value of the new treatment. He had also found that the soluble sodium salts of the higher melting point acids (49° to 62° C.) were more active in leprosy than the lower ones (37° to 40° C.), which he had at first mainly used, thus effecting a further concentration of the active portion of the oil. This had resulted in considerably more rapid improvement in cases during the last six months than he had formerly obtained. As, according to Hooper, the term gynocardic acid was first applied by Moss to a mixture of fatty acids with a melting-point of 29° C. obtained from true chaulmoogra oil of the seeds of *Taraktogenos kurzii* and the higher melting-point acids recently separated contained chaulmoogric acid (and probably also some hydnocarpic acid), the salts now being used for intravenous and subcutaneous injection in leprosy cases might be more correctly termed for the present sodium gynocardate and chaulmoograte with given melting-points until pure substances could be isolated and tested. Dr. Sudhamoy Ghosh, D.Sc., was continuing his chemical investigations of the oil from *Taraktogenos kurzii*, which alone had been used in the cases shown, the Indian Research Association having kindly continued their grant for this purpose through the late Sir Pardey Lukis. More favourable results were first obtained with preparations of fatty acids with a melting-point of from 49–51° C., which proved more active and reliable than those of from 37° to 40° C. melting-point, and at present one with a melting-point of 54° C. was being used with favourable effects. Messrs. Smith, Stanistreet and Co., of Calcutta, were now making the higher melting-point preparations in place of the less active lower melting-point ones they previously supplied at the speaker's suggestion. A 3 per cent. solution was made, with the addition of ½ per cent. sodium citrate (to prevent clotting in the vein after injection, which was more likely to occur with the higher than with the lower melting-point preparations), and after sterilising in an autoclave ½ per cent. carbolic acid was added, or the carbolic acid might first be added and the solution heated on a water-bath to 100° C. for 20 minutes. The doses were gradually increased by ½ to 1 c.c. at a time, beginning with 1 c.c. and pushing it up to 4 or 5 c.c., as long as severe giddiness was not produced, the injection being made slowly when given intravenously. In addition, 2-grain pills or tablets were given by the mouth after meals on the days the intravenous injections were not made, beginning with 3 pills a day and increasing by one daily until 10 or 12, or even as many as 20, pills were taken each day provided the digestion was not disturbed. Many of the cases had been successfully treated by intravenous injections once or twice a week without the pills, but progress was more rapid with the combined method, although it was more expensive. By the intravenous method alone cases could be treated for a year at a cost of only two to three shillings each for the drug. The treatment must be continued for long periods, usually a year or over, although one early tubercular case cleared up in five months and had remained free for six months after cessation of treatment, while in another the tubercles and the bacilli disappeared in six months, but the patient had been lost sight of It was probable that progress would be more rapid with the new higher melting-point preparations, which had only been in use for a few months. With the more painful subcutaneous method a number of patients ceased attending before they had derived much benefit, but with the almost painless intravenous one this was seldom the case. The most striking feature of the intravenous method was the occurrence of febrile and local reactions, the thickened tissues becoming swollen and soft and sometimes discharging numerous broken-down bacilli. These reactions were always followed by more rapid improvement and had never done any harm. The apparent local destruction of the bacilli through an intravenous injection of a vegetable substance was a most remarkable and encouraging sign. Very large nodules might be treated with advantage by injecting a few drops of a 1 in 1000 solution into them occasionally. The following table summarised the results of the treatment

Leprosy Cases Treated with Subcutaneous and Intravenous Injections of Sodium Gynocardate and Chaulmoograte.

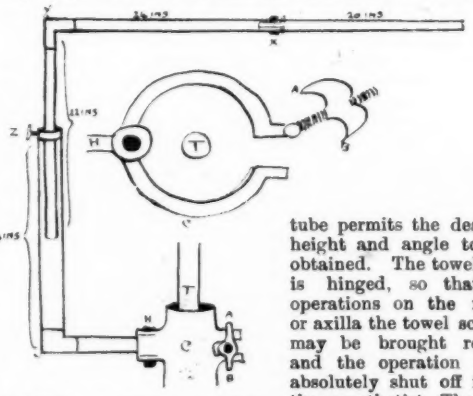
Duration of treatment.	Slightly better.	Much better.	Lesions disappeared.
3 to 6 months.	3	3	1
6 to 12 months.	3	3	1
Over 12 months.	2	2	8

of all the cases who attended for three months and upwards during the last two years, including both the subcutaneous and intravenous methods. A fuller account of the treatment, with brief notes of all the cases and some coloured illustrations and photos, is to be published in an early number of the *Indian Journal of Medical Research*. By "lesions disappeared" was meant the complete subsidence of the macules or nodules with disappearance of the leprosy bacilli, as shown by microscopical examination of smears and sections from the most likely looking places, in tubercular cases, and the disappearance of the discoloured patches and of the loss of sensation in the anæsthetic ones. The cases so classed included 7 tubercular and 3 anæsthetic cases, comparatively few of the latter type having been treated. The previous duration of the disease before treatment varied in the recovering cases from 2 to 6 months in two cases, 1 to 2 years in three, and in the remaining two cases 3 and 10 years respectively. It was still too early to say if the results would be permanent or to speak of cures. The speaker concluded that the problem of finding a completely satisfactory treatment of leprosy was not yet solved, but he thought that some progress had been made in the right direction by his investigations, which were being continued.

New Inventions.

A PORTABLE ANÆSTHETIST'S SCREEN.

THE need for an adaptable method of shutting off the anæsthetist and the difficulty in so doing with the towel rods and supports obtainable, suggested the one here illustrated. The sketch needs little description. A trouser-press form of clamp attaches it to a leg of the operating table; a telescopic



A, B, Screw; C, clamp; H, hinge; T, table leg; X, hinge (with lateral movement); Y, fixed joint; Z, clamp.

tube permits the desired height and angle to be obtained. The towel bar is hinged, so that in operations on the neck or axilla the towel screen may be brought round and the operation field absolutely shut off from the anæsthetist. The cost of material is small, and it can be made by any metal-worker. The one illustrated was made in the workshop at the Military Orthopædic Hospital and is in use in the operating theatre there.

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THE LANCET.

LONDON: SATURDAY, NOVEMBER 3, 1917.

Life Saving at the two Extremes of Age.

Now that human life in its middle reaches is so precarious the world over, the saving of the infants and also of the veterans is a matter of enhanced importance. The infants have naturally claimed the larger share of attention, and the Medical Research Committee has rightly construed its obligation to the National Insurance Funds over which it has control by devoting time and money to an investigation of the Mortalities of Birth, Infancy, and Childhood, which forms the subject of a recent report (Special Series, No. 10). The introduction to this report contains philosophical reflections on methods and results to which all will do well to give heed whether they agree or not. The phrase "infant mortality" is characterised as confusing or meaningless in view of the variety and complexity of the separate factors involved in its causation. Attention is directed on one hand to the need for detailed analysis of the physiological qualities of the mother and child, of which our knowledge is still highly imperfect, and on the other hand to the careful classification of the various effects of environment and disease on these qualities. The familiar concept of the interaction between the factors of soil, seed, and climate, may well be transferred to the topic of infant mortality, and proper appreciation of this interaction and of the need for analysing it should attend any scheme for efficient work. The time has indeed gone by when mere repetition of the Registrar-General's gross figures in regard to infant mortality can serve any useful purpose save that of maintaining public interest.

The parties to the investigation contained in the report include Dr. W. A. BREND, a lecturer on forensic medicine who is also a barrister, Dr. LEONARD FINDLAY, physician to a children's hospital, and Dr. J. BROWNLEE, the director of statistics to the Medical Research Committee. Any common conclusions, even though provisional, at which observers from such widely different standpoints arrive should command attention. All three agree in differentiating sharply between the deaths of infants in the few weeks immediately succeeding birth, the number of which remains surprisingly constant whatever the external surroundings of child-bearing, and the mortality in the later months of infancy and childhood, the figures for which have diminished during recent years in equally surprising ratio in all areas and under all conditions. Dr. BREND suggests that we shall name these two periods "birth mortality" and "mortality of early childhood" respectively. Two of the observers are able to see a prospect of considerable life-saving in the birth mortality group and emphasise the necessity for a thorough study of all that is included under the general term prematurity or congenital defect. In the causation of the mortality of early childhood, differing as it does so enormously in urban and rural areas, Dr. BREND eliminates such hostile factors as operate both in localities of low and high mortality—e.g., housing and food-supply—and points to atmospheric pollution as the most potent factor in urbanisation in killing children. Judged by this standard, the Meteorological Office can claim a front place in the campaign for saving infant life, as was shown in a supplement to THE LANCET last week, comprising the report to that office of its Advisory Committee on Atmospheric Pollution. Dr. FINDLAY, on the other hand, sees no reason for giving up the idea that housing conditions play a prominent rôle in the mortality of early childhood in Glasgow. He points to the remarkable similarity in the curve of infant mortality rate when charted from year to year in the various areas of Great Britain and Ireland, and to the sobering effect which a study of this similarity should have on the claims made by local infant welfare schemes to have altered the curve for their own locality. Dr. FINDLAY says it hardly seems likely that any number of visits to infant clinics will ameliorate the health of the infant so long as it has to spend its time in unhygienic surroundings. Dr. BROWNLEE suggests the possibility that by plotting mortality curves we may obtain an indication whether a group of symptoms attending death is the result of one or several causes. He finds no clinical distinction between convulsions associated with pneumonia and convulsions associated with enteritis, and concludes that convulsions are more a pathological entity than is commonly believed. Diarrhœal diseases form a homogeneous statistical group, but the statistics of bronchitis and pneumonia suggest that these are two diseases of different etiology. The report as a whole is not a sweeping condemnation of the value of personal effort, as it might hastily be construed to be, but rather a powerful plea for the direction of this effort into the channels where it is likely to be most effective.

The prevention of senile mortality is a subject of which we hear less; in fact, the absurdity of the use of such a comprehensive term is more evident than in the case of infant mortality. We can hardly imagine any serious investigation into an alleged excessive death-rate among grandparents. But while the study of bills of mortality at advanced age may well lead to no useful result, the study in detail of the factors paving the way to a healthy senility has had obvious attractions for many a medical man whose own life has passed its zenith. Mr. T. BODLEY SCOTT returns again after an interval to this study in a recently published book on the Road to a Healthy Old Age.[1] To him the tragedy of old age helplessly exposed to the rough and chilly winds of life is at least unnecessary. It is useless to lament the deplorable wastage of health and happiness and time that is especially characteristic of old age without studying the means by

[1] T. Fisher Unwin, Limited. Price 4s. 6d. net.

which they may be prevented, and Mr. SCOTT deals first with the problem of food, finding that as age increases it is the quantity rather than the quality that matters. While with most of us as we grow older digestive power appears to improve and migraine and similar afflictions disappear, it should be clearly borne in mind that every excess in eating, as in drinking, leaves a mark on the reserve of power. He estimates that 50 per cent. of the deaths of people over 60 years of age are due to arterio-sclerosis, Bright's disease, or to the non-tuberculous chronic chest diseases which so often accompany them. To the sceptic who claims that the thickening of the arterial coats is nature's method of keeping up a failing circulation he replies Yes, but the sclerosis is itself a fault, to compensate in a measure for another fault, and it is our duty not to stand by and see a vicious circle go on to its end unbroken. Mr. SCOTT claims to have steered many sclerotic patients through dangerous areas of later middle life into the quiet and restful harbour of real old age free from paralysis and with mind unclouded. His claim demands attention in that he has preceded his treatment of the individual case with an analysis of the large factors involved. We do not compare the evidence which he is able to bring forward as to life-saving among veterans either in scientific standard or in inherent importance to the investigation undertaken for the Medical Research Committee into the mortality of infants; but none the less the subject is of great interest. There is much national value left in the healthy man and, in different spheres, perhaps, in the healthy woman of advanced age. That value should be saved.

Enemy Patents and Trade Marks.

A TIMELY and interesting paper was communicated recently to the Liverpool Chemists' Association upon the law relating to patents and trade marks, Mr. S. W. WOOLLEY, the author of the paper, making particular reference to the effect of existing legislation in the case of chemical preparations patented by Germans in the United Kingdom and sold under titles registered by them as trade marks. In this connexion he explained the process by which on the expiry of a patent an apparent, but not substantial, protection is afforded by a trade mark. This position affects manufacturers and dealers in other industries than drugs, but it applies more closely than to any other class of traders to those connected with the pharmaceutical industry, owing to the frequent use in pharmacy of names with which particular preparations become closely, if not indissolubly, associated. When the patents in such preparations expire, it becomes at once open to anyone to manufacture and sell what before was a monopoly. The trade mark, which may remain on the register, consists of a name, perhaps a very familiar name, and the manufacturer who wishes to make the article in question is deterred by the fear that unless he calls it by the title under which it has previously gone the sales will suffer greatly. But he learns that if he does employ the household name he may be exposed to costly litigation for alleged infringement of a trade mark. According to Mr. WOOLLEY, German manufacturers have taken advantage of this, and by free expenditure of money upon fees for counsel have made such cases as costly as possible, sparing no pains to protect and maintain a threatened monopoly.

The law does not, however, recognise, in the case of a lapsed patent, that the use of the name by which the article is known shall be, by itself, an infringement of the rights of the owner of the trade mark, and this information was well brought out by Mr. WOOLLEY in his paper by quotations from the judgments of several distinguished judges in reference to the point. A part of one such judgment runs as follows:—

"If the article is a patented article sold by the patentee under the name in question, then when the patent expires anyone is at liberty to make and sell the article, and to sell it by the name under which it has become known in the market; and if nothing more is done the patentee has no redress." (LINDLEY, L.J., in Powell *v.* Birmingham Vinegar Brewery Co., Ltd., 1896.)

Other judgments might be quoted of the same general opinion and equal clearness, and the impression left upon the mind by reading them is that we may easily exaggerate the deterrent effect of possible litigation in circumstances where the law is so clear. The most eminent counsel cannot do much for clients in face of directly adverse judgments concerning the identical main issue, nor are such advocates, being little anxious to conduct hopeless litigation, likely to advise that actions for infringement of patent should be brought in the circumstances that we are considering. Due weight must, however, be given to the saving clause which concludes the quotation from Lord Justice LINDLEY'S words. Nothing more must be done than to describe the preparation by the name which is claimed as common property, and the article must be that which the name designates and not something which merely masquerades under a borrowed title. In the above case in which Lord Justice LINDLEY gave judgment, the selling of a condiment as "Yorkshire Relish" was stopped by order of the court because the defendants could not show that they were making what had been known by that name, but appeared to be "passing off" a compound which was intended to, and no doubt did, closely resemble the original. We may cite the headnote of an important case also decided finally in the House of Lords to show how far the law goes in this matter, and that it goes no farther.

"A trader has a right to make and sell machines similar in form and construction to those made and sold by a rival trader, and in describing and advertising his own machines to refer to his rival's name provided he does this in such a way as to obviate any reasonable possibility of misunderstanding." (Singer Mfg. Co. *v.* Loog, VIII. Ap. Ca. 15.)

In other words, if a maker adopts the name under which another has made a certain article known it may not be possible for the original patentee and owner of the trade mark to stop him. The new maker must not, however, cause it to be thought that

the original patentee is manufacturing what he is himself producing, and so add to his profits by trading on the reputation of another. It is, no doubt, to a certain difficulty in avoiding any suggestion of "passing off" that the danger of litigation referred to by Mr. WOOLLEY may be ascribed, and the best course for a manufacturer to adopt in the circumstances indicated would be to take the advice of counsel before embarking on his venture.

There is, however, a good deal in the suggestion made by Mr. WOOLLEY that the opportunity should now be taken under the Patents, Designs, and Trade Marks (Temporary Rules) Act, 1914, or by means of similar legislation passed to meet the requirements of a particularly important period in our industrial development, to purge the register of all marks which ought not to be there, in so far as they tend to hamper the otherwise permissible production of articles of public utility and benefit. In this category many chemical preparations from which German inventors have derived their full share of profit would undoubtedly fall. Apart from the above question, Mr. WOOLLEY'S lucid summary of the history of patent and trade-mark legislation will be found worth reading.

Annotations.

"Ne quid nimis."

VILLAGE SETTLEMENTS FOR THE DISABLED.

WE publish in another column the outline of a scheme which proposes to combine, in the interests of sailors and soldiers who have been disabled during the war, restorative treatment with industrial and social reconstruction. The aim of the scheme is to train certain of our victims in the world's catastrophe so that, being restored in mind and body, they may be fit subjects for settlement on the land, and may be the founders of small self-supplying village communities where local industries can be carried on. While the men are recovering physical power and mental balance they will be instructed in a suitable trade or in the practical business of agriculture. It is clearly no use to strain the strength of a man who is grossly disabled, but in many instances the régime of curative treatment found most appropriate for the case of the disabled man might be carried out while the man is learning his new trade, and, indeed, the course of his education might itself become a part of his regular therapy. Such a combination of physical, mental, and manual training would assist in the patient's perfect recovery and tend to make him a self-supporting citizen in a short space of time, for the technical instruction, itself perhaps a tedious affair, would not have to be wholly delayed for the long period that might elapse before the disabled man could fairly be held to have recovered. It appears in every line of the programme that the promoters of the scheme form a group of radical reformers whose socialistic sense is strongly developed, for they look beyond the healing and training centres which they propose to establish, and expect the advent of rural colonisation, when the village settlement, with permanent institutions, interests, and a corporate life of its own, will restore to the country something of that combination of simplicity and efficiency which is associated with the popular view of the "good old days." This in itself is interesting, for hitherto anything like approval of the rural life of sixteenth- and seventeenth-century England has been anathema to the reformer, whose familiarity with, and abhorrence of, the conditions of ignorance under the later phases of feudal rule blind him to the national value of the widespread happiness which accompanied that ignorance. What is wanted in our country districts after this war is the happiness without the ignorance, and such village settlements as are here planned might secure this event. The medical significance of the movement is striking, and as doctors we must all wish it well, for if it succeeded it would serve the purpose of rescuing from lives of great hardship and permanent sickness many thousands of our citizens who have been damaged in the war, and give them the opportunity, not only of leading useful lives, but of leading them in company with increasing and healthy families. The particular class of cases whom it is designed to care for are the sufferers from shell shock, neurasthenia and depression, cripples and men who have undergone amputation, and delicate cases recovering from disease or injury for whom life on the land is definitely prescribed by their medical advisers. It is clear that the Ministry of Pensions will have many thousands of such cases to deal with, and there is a risk lest the suffering men should not be got hold of by the authorities and allocated for special treatment. But if there is organised coöperation between those who are specially working in the interests of disabled service men we see no reason why many of our stricken fighters should escape a net widely spread for their advantage. Men crippled by wounds or wasted joints, if their injuries are carefully supervised by competent medical men, will be able to do much from the very beginning in outdoor life, and this, while improving them physically, will add to their happiness and conduce to their permanent cure. Others of the wounded will be country-born and will take to village settlements with a particular feeling that they have got where they are understood and where they can understand. In the absence of any definite information upon the financial side of so large a scheme more than this cannot yet be said; but here is a movement that should especially command the interest and support of our profession.

THE COUNTRY'S TRIBUTE TO THE SERVICES.

ON Monday last both Houses of Parliament passed a series of resolutions expressing the gratitude of the nation as a whole, through its representatives in Parliament, for the self-sacrificing labours of both men and women in the service of their country. The resolution which included the medical services was couched in the following terms:—

> That the thanks of this House be given to the officers, non-commissioned officers, and men of the British armies in the field, and also to the women in the medical and other services auxiliary thereto, for their unfailing courage and endurance in defending the right, amid sufferings and hardships unparalleled in the history of war, and for their loyal readiness to continue the work to which they have set their hands until the liberty of the world is secure.

In the Lower House the Prime Minister dwelt specially on the mitigation of the horrors of warfare achieved by the medical men, chaplains, and

nurses serving with the fighting forces, and his eloquent words will be found in the report of our Parliamentary Correspondent. Greater courage, knowledge, and experience than that shown by the medical services had, he said, never been seen. In the Upper House the Primate, in supporting the resolution, said that he noted with gratitude the references made to those who ministered to the bodies and spirits of those who served. Testimony was borne day by day to the value of the services of the medical men who had, at great sacrifice, given themselves to a task immense beyond all calculation.

NEW METHODS OF ANÆSTHESIA.

THE limitations to the use of nitrous oxide and oxygen in major surgery have to a considerable extent been removed by the technique introduced within recent years. Twenty years ago or more long operations had already been performed under this anæsthetic, but the inconveniences arising, not only from the number of cylinders required, but also from the light nature of the narcosis, prevented the method from being widely employed, in spite of the undoubted advantages so far as freedom from after-effects was concerned. To-day, by the use of preliminary narcotics, a more satisfactory anæsthesia is obtained, while the employment of rebreathing greatly diminishes the consumption of the gases and the need for enormous supplies of them. Captain H. E. G. Boyle, in the paper we publish to-day, has given a concise account of the results that he has achieved with this method and of the apparatus and technique involved. Even with these improvements, however, all anæsthetists of experience are aware that careful selection of cases is required. The type of operation and the type of patient must both be suitable if perfect results are to be obtained with nitrous oxide and oxygen. The field is much widened if a little ether or chloroform is introduced, but to our mind the proceeding then takes on a totally different character, and these cases should be clearly differentiated from those in which nitrous oxide is the only general anæsthetic employed. When ether or other similar drug is introduced into the circulation and a rebreathing process is in use it is impossible to say when the ether has been eliminated or what part it has played in the continuous anæsthesia. More than 30 per cent. of the cases related by Captain Boyle required this assistance, and these cases are not quite clearly separated from those in which nitrous oxide was relied upon alone. Again, as was pointed out by Mr. J. H. Chaldecott, the opportunity for successful use of continuous nitrous oxide is greatly broadened by the concurrent employment of local anæsthetics in the manner first introduced to practice by Crile. There are, however, surgeons who do not approve of the extensive local injections required at varying depths of tissue. Anæsthetists of to-day may, we think, congratulate themselves that the comforts of a non-toxic anæsthetic have been brought within reach of a very large proportion of patients undergoing operation. We have little doubt as regards the superior safety also of such an anæsthetic, in spite of the formidable list of fatalities collected in America, where this method has been very widely employed in major surgery. It is the details of the cases that alone can instruct us in this matter, and when such lists are examined from this point of view it will be found that the fatalities are mainly concerned with cases in which operation was extremely hazardous under any anæsthetic, or else that the patients were improperly selected for continuous nitrous oxide. There is no doubt that, as Captain Boyle points out, both in selection and in administration, experience, care, and skill are essential where this anæsthetic is concerned. Another method of anæsthesia which, in quite a different manner, also aims at enhancing the safety and comfort of the patient has recently been described in our columns by Mr. H. M. Page, and is criticised to-day in a letter from Dr. F. E. Shipway. Here again we are dealing with an improved version of an old procedure. In this case, however, we think that the number of occasions in which the method concerned—rectal ether anæsthesia—is the most desirable that can be made use of is small. Our reasons for so thinking are largely indicated in Dr. Shipway's communication.

THE COMING MINISTRY OF HEALTH.

AT the conference of sanitary authorities convened on Monday last at the Mansion House by the National Association for the Prevention of Infant Mortality, Lord Rhondda, who presided at the afternoon session, took the audience into his confidence in regard to his own share in framing a Bill for a Ministry of Health. The Board of Education at first viewed with jealousy his proposal to coördinate all the health activities of the Government in one department, but before leaving the Local Government Board he had succeeded in coming to an agreement with Mr. H. A. L. Fisher on the sphere of their two departments in regard to child welfare work. The proposal to confer further powers on local authorities, enabling them to deal effectively with the interests of the mother and young child, had not been ratified by the Government solely on account of the differences which had arisen between the health departments of the Local Government Board and the Insurance Commissioners. The conference passed a resolution urging the establishment of a Ministry of Health, and appointed a small committee of its executive council to act in conjunction with Lord Rhondda in endeavouring to unite the opposing interests on an agreed measure. The memorandum which has just been issued by the Women's Coöperative Guild suggests a middle course which may well help such an agreement. While insisting that insurance must from the beginning form an integral part of a Ministry of Health, and that the medical side of the Poor Law must be separated from its unpopular features, the memorandum finds the arguments irresistible for making the Public Health services the basis of the Ministry. It is indeed gratifying to medicine to see such keen rival claimants to the care of public health, and we trust that any agreement reached, such as was indicated by the Chancellor of the Exchequer on Tuesday, will not damp this public-spirited ardour.

FOOD IN WAR-TIME.

ON Oct. 26th, at Gretna, a public lecture, under the auspices of the Chadwick Trust, was given by Professor D. Noel Paton, on Food in War-time. Shortage of food in the future was almost certain, the lecturer said, because (1) the world's production of food is decreased by diversion of labour from the land to armies, combatant and industrial; (2) the supplies are limited by the isolation of such food-producing countries as Russia; (3) the importation of food is decreased by decrease in the carrying tonnage due to diversion of shipping to military

purposes and to its destruction by the submarine campaign; (4) the demand for food has increased because of the strenuous work which has to be done by the nation. It had been calculated that the minimum requirement of the nation in food energy units is something like 43¾ million million per year. How could the supply be maintained in war-time? We had to recognise that the nation's wealth was not unlimited, and that, even if it were, the supply of food purchasable is strictly limited. By scrupulous economy in all things, and especially by avoiding all waste of food, we could postpone the evil day and allow of victory being gained. Those who were well off and could afford an excess of food over their requirements were robbing their poorer brethren if they consumed more than they required. It was in the supply of the essential breadstuffs that the danger lay. All the Government could do was to secure a fair distribution of food between all classes. This would mean rationing, with all the expense and irritation of an army of officials, unless voluntary conservation of the food-supply were practised.

TRAUMATIC GLYCOSURIA.

THAT traumatism occasionally results in the appearance of sugar in the urine is a well-known fact to which a good deal of attention has been given. Experimentally Brown-Séquard's observation of the glycosuria following puncture of the fourth ventricle is the classical example. The war naturally affords a large field for the study of traumatic glycosuria, and in the *Paris médical* for Oct. 20th Dr. F. Rathery, a Paris hospital physician at present in charge of a temporary hospital, records the results of his observations of more than 1400 cases of gun-shot injury. Glycosuria appeared in 4·2 per cent. of these. It was noticed especially in association with multiple wounds of the extremities and was not more frequent in wounds of the head than of other parts of the body. No relation of the glycosuria to the gravity of the individual wound was observed. The quantity of sugar rarely exceeded 20 gm. in the 24 hours, and was generally from 3 to 4 gm.; its appearance was often intermittent, and the final disappearance as a rule sudden. The two most protracted examples were both in cases of injury of the lower extremity: one of these lasted 24 days and the other 6 months with intermissions. In no single case did progressive diabetes follow the traumatic glycosuria. Professor Rathery's observations form a useful contribution to a subject of considerable clinical and experimental interest.

THE INTERNAL SECRETION OF THE REPRODUCTIVE GLANDS.

IT is a drawback to the experimental method, as practised on lines of Baconian induction, that anyone may make a few random experiments and with the results lay some sort of claim to general attention. Hence we should preserve a carefully critical attitude towards claims to medical discovery until some circumstance evinces the likelihood of some truth in them. Lately[1] the physiological work of Steinach, Foges, and Lode has come in for repeated discussion. Steinach described having changed the sexual disposition of small mammals by implanting, as the case might be, an ovary into a young male or testicular substance into a young female. When the necessary operations were successful the treated animals in their sexual behaviour showed reversal of the natural conditions, males attempting to mate with males and females with females. But (a very important point) such was the case only if the young animal so treated had been first deprived of its own primary reproductive gland—i.e., if it had first been castrated or spayed—otherwise the implantation had no feminising or masculinising effect. It was, in short, as though a clear field was necessary for the exogenous influence. Around these findings the theory has been constructed that the products of internal testicular and ovarian secretion—that is, the specific reproductive hormones of the two sexes—are sharply antagonistic the one to the other. Their effect on the brain, from which the sexual impulse proceeds, is described as an "erotising" one, in the direction of masculinity or femininity respectively. The mode of action is supposed to be bio-chemical. The conclusions want more evidence to back them.

[1] Zeitschrift für Sexualwissenschaft, August, 1917.

THE next session of the General Council of Medical Education and Registration will commence on Tuesday, Nov. 27th, when the President, Sir Donald MacAlister, will take the chair at 2 P.M.

THE FitzPatrick Lectures of the Royal College of Physicians of London will be delivered at the College on Nov. 13th–15th, at 5 P.M., by Dr. Arnold Chaplin, who has chosen as his subject "Medicine in England during the Reign of George III."

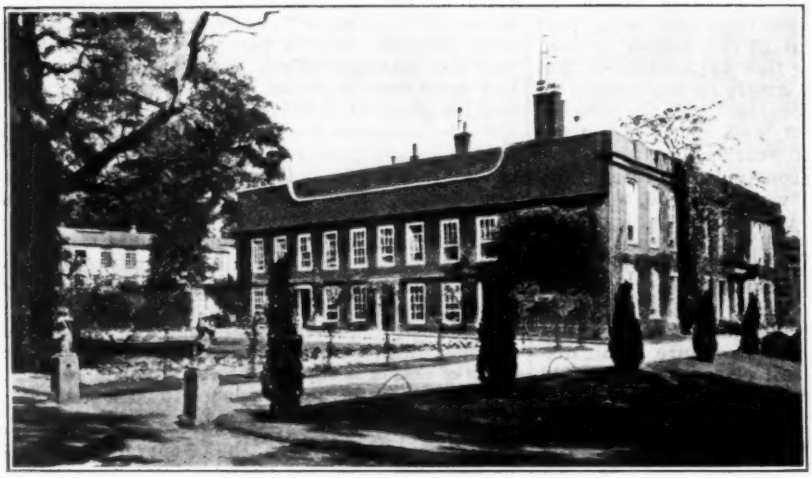
THE QUEEN'S HOSPITAL, FROGNAL, SIDCUP.

UNDER the patronage of the Queen, the Queen's Hospital, Frognal, Sidcup, is now established for the reception of cases of injuries to the face and jaw, and established as the centre for the treatment of these interesting and painful cases, to which all the worst examples will surely be attracted. It is, moreover, the object of the Presidents of the institution—viz., the Director-General and the late Director-General of the Navy Medical Service and the Director-General of the Army Medical Service, assisted by a strong committee, to give to the institution an Imperial scope, and to see that it shall receive from the Expeditionary Forces all the wounded who clearly fall under the indicated category, and that it shall be in touch with colonial centres for similar cases. There will also, it is hoped, be developed a system of convalescent homes for treatment of patients in various stages, and facilities will be provided for their after-education. All this is now definitely inaugurated at Frognal, though the indicated developments have yet to take shape.

Historical Outline.

The history of the institution dates from November, 1915. The organised work for the care and treatment of facial and jaw injuries had already been started in France. To Major H. D Gillies, R.A.M.C., who had seen the results obtained by Morestin, Valadier, and others, when he was serving with the Red Cross in France, belongs the credit of introducing to the British Director-General of the Army Medical Service the possibilities of enormous amelioration in the conditions underlying the plight of some of the most sadly wounded of our sailors and soldiers. A beginning was made at once at the Cambridge Hospital, Aldershot. Major Gillies having 200 beds allotted to him, but hundreds of cases arriving from all parts of the various fronts had to go elsewhere. Through lack of accommodation the arrangements at Aldershot were ill-fitted for the proper development of facial, jaw, and cosmetic surgery; moreover, it was found that such patients as were admitted did not do well in the absence of congenial environment at Aldershot. Sir Arbuthnot Lane early in the proceedings had been asked by the

FIG. 1.



South-east aspect of Frognal House.

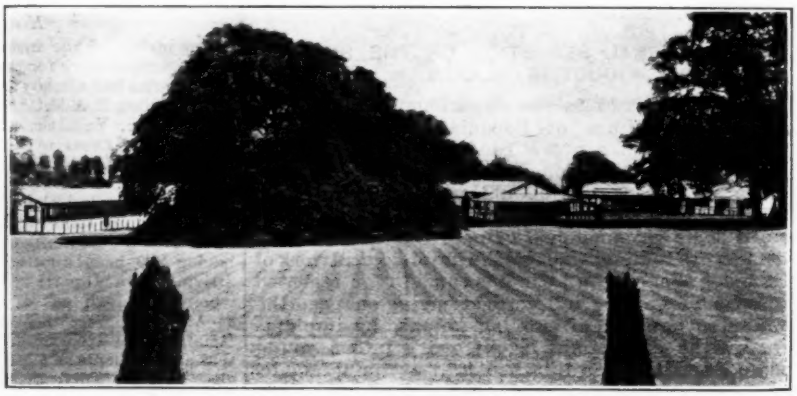
Director-General to act as a general consultant and superviser of the movement, and without his driving force and unselfish employment in every direction of wide influence the quick success, now to be chronicled, would not have come. It was decided quickly, and on all grounds of efficiency and utility, to emigrate to a more satisfactory and adequate site. Excellent work was being turned out from Aldershot by Major Gillies, Captain Tuddihope, Captain J. L. Aymard, Captain L. A. B. King, Captain Kelsey Fry, and others, assisted by the drawings of Professor Henry Tonks, F.R.C.S., but it was obvious to everyone that better, far better, things could be done in more suitable surroundings.

An attempt on the part of Major Gillies to place some of the patients at Aldershot in a convalescent home led indirectly to the movement of the hospital from Aldershot to Sidcup. Many of the disfigured patients suffer from acute depression, and are so conscious of their affliction that they refuse to return to their homes and friends until they are convinced that everything possible has been done for them, and therefore the question of a convalescent home was a very important one when the patients were living in the crowded atmosphere of Aldershot. In reply to representations that help was sorely needed, Lady Rodney and Mrs. Bertram Corbet proposed to put up 35 to 50 bad cases at Great Alresford; and also these ladies, and with them Lord Clarendon, approached Mr. C. H. Kenderdine, the honorary secretary and treasurer of Queen Mary's Convalescent Auxiliary Hospital, Roehampton, to ascertain whether some centre, similar to that devised at Roehampton for limbless sailors and soldiers, could be started for those unfortunates whose faces were mutilated by loss or deformity of features. Mr. Kenderdine advised that a far more ambitious undertaking than the original proposal to find temporary accommodation for convalescents should be organised. He suggested that Frognal House, Sidcup, the residence of the late Lord Sydney (Fig. 1), could be secured with the consent of the present owner, Mr. H. S. Marsham-Townshend, and he strongly advised the building of a new hospital in its beautiful grounds (Fig. 2), using the mansion as an administrative block, containing the mess-rooms of the convalescent officers and the living accommodation of a full nursing staff. This advice was followed, and Mr. Kenderdine worked hard and successfully to give full effect to it. Indeed, the hospital from its business side may be said to own its fortunate status to Mr. Kenderdine's exertions and experience. So now, under the surgical superintendence of Sir Arbuthnot Lane, a complete hospital, with 320 beds for patients and every facility for treating and nursing them has been established in the beautiful eighteenth-century mansion and its picturesque grounds. It is impossible to exaggerate the value to the growth of this great undertaking of Sir Arbuthnot Lane's tireless energy. How much time he has devoted to the hospital it would be difficult to guess, and at his numerous informal consultations questions of the most various sort connected with the welfare and future growth of the hospital have been freely debated, so that the whole staff know that in him they have a thoroughly well-informed as well as fair adviser.

The Present Staff.

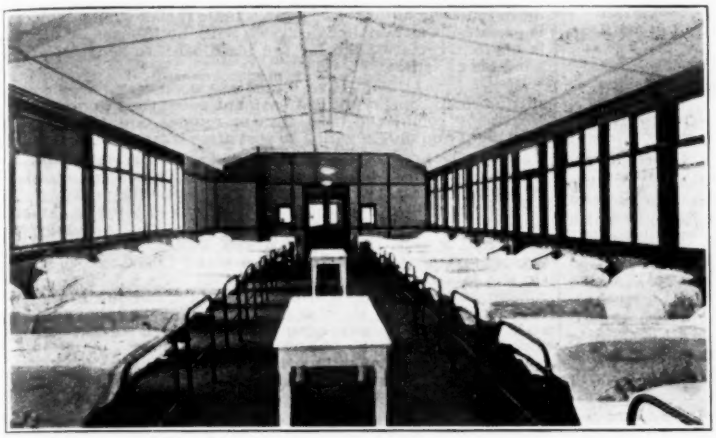
The roll of officers now doing duty at the Queen's Hospital is as follows: Lieutenant-Colonel J. Colvin, commandant; Major H. D. Gillies, plastic surgeon; Captain W. Kelsey Fry, R.A.M.C., dental surgeon; Captain C. F. Rumsey, R.A.M.C., plastic surgeon; Captain J. L. Aymard, R.A.M.C., aural specialist; Lieutenant G. Seccombe Hett, R.A.M.C., aurist; Lieutenant R. Wade, anæsthetist; Lieutenant G. C. Birt, plastic surgeon; Lieutenant H. C. Malleson, plastic surgeon; Captain E. W. Lowe, attached R.A.M.C., dentist; Lieutenant A. L. Frazer, attached R.A.M.C., dentist; Captain A. Jupp, attached R.A.M.C., dentist; Major J. C. Duff, Rifle Brigade, attached R.A.M.C., quartermaster; Lieutenant R. M. Montgomery, surgeon; Lieutenant H. Johnstone, radiographer; Captain Robertson, dentist; and Captain J. C. Clayton, R.A.M.C., anæsthetist. Sir Francis Farmer and Mr. J. F. Colyer have joined the staff of the hospital as consulting dental surgeons. The hospital is fortunate in its commandant, for Colonel Colvin has been alike a most competent and energetic administrator and the sympathetic promoter of all the scientific developments of the place. At the present moment the

FIG. 2.



New hospital seen from the terrace of the house.

FIG. 3.



One of the larger wards.

312 beds in the hospital include 27 officers, of whom 15 are in huts and 12 convalescents in the main building.

The Scope and Aims of the Hospital.

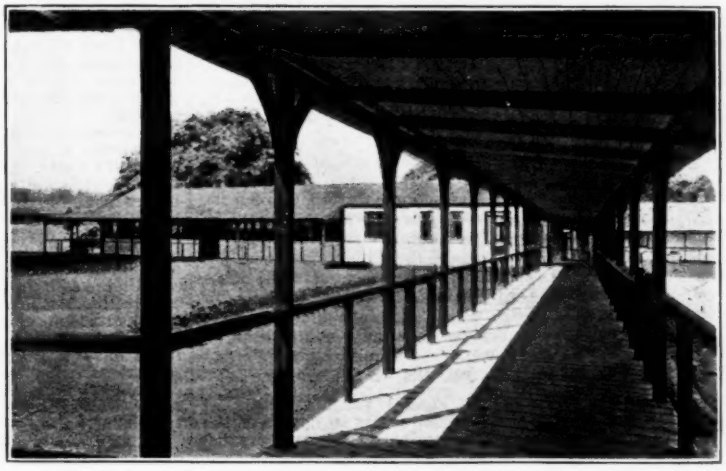
The hospital has been built in the grounds, with every conceivable convenience in the way of wards, operating theatres, dental rooms, X-ray rooms, and so on. The transference of the cases from the Cambridge Hospital, Aldershot, was completed on August 22nd last. The hospital has now 346 beds for officers and men, with another 12 beds for convalescent officers. Instructions have been issued by the War Office that all facial and jaw cases should be sent to the Queen's Hospital, which is intended to have 550 beds, and to be the central institution for the treatment of this class of injuries. The hospital is in good railway communication with Dover, but there is more delay in transferring to Sidcup the patients who are landed at Southampton or at ports further west; but drawbacks of that kind may be expected to disappear, as the benefits to be derived by prompt and proper treatment at the Queen's Hospital become common knowledge. It is hoped all straightforward fractures of the jaw and other cases will be disposed of at the hospitals affiliated to the Queen's Hospital in the neighbourhood—namely, the Croydon Hospital, Section V., and the Ontario Military Hospital for Canadians, Orpington; if a scheme of amalgamation like this were perfected there would be a total joint institution of some 1250 beds. The South African, Canadian, Australian, and New Zealand Expeditionary Forces would thus reinforce the Queen's Hospital staff with the most experienced of their respective surgeons and dentists in the kind of work that is being done, and the staff at the Central Hospital would become an Imperial staff.

The central hospital building, an affair of iron and concrete, stands in the beautiful grounds of Frognal, and although it is quite new and very extensive, it does not detract from the general beauty of the scene in the least bit. It is built in form of a narrow horseshoe, whence wards of various sizes and with different special objects radiate connected by long arcaded corridors. The trees and evergreens of the grounds grow up among the buildings, affording pleasant shade and pretty views immediately without the doors of the wards. (Figs. 3 and 4.). A farm of 100 acres is attached to the house, where the men, with a view to their future employment, will be instructed in outdoor occupations, such as gardening, market-gardening, dairy work, poultry keeping, forestry, &c. In addition, workshops will be provided for practical instruction in estate carpentry and other handicrafts, and work in connexion with electricity, agricultural machinery, and motor traction. All this work of after-education is in contemplation.

Liberal grants have been made to the hospital by the British Red Cross Society and the National Relief Fund. The committee of the National Relief Fund have agreed to purchase Frognal and about 90 acres of land and to hand it over to trustees for use as a facial and jaw hospital, with the proviso that, if its employment in this direction should be discontinued, the buildings and amenities will then be devoted to some purpose of national health.

Among our wounded sailors and soldiers none, perhaps, deserve our sympathy and compassion more than those who have suffered grievous facial injuries, in many cases of such a nature as to render them at first unrecognisable. Surgical skill properly applied avails to relieve immediate suffering, but cases of this character require continuous and special care during a long period of convalescence. Surgery to-day can effect cures in a large proportion of cases which two or three years ago would have been considered hopeless instances of facial mutilation. This is excellently demonstrated by the specimens at the War Museum now on view at the Hunterian Museum of the Royal College of Surgeons of England, but for these splendid results sufficient time and careful nursing are necessary; experience shows that frequently a period of from one to two years is required to build up and restore the features of men who would otherwise be permanently disfigured. No effort should be spared to give these men a fresh interest and a new start in life, lest many drift to the towns on their discharge from the Services, only to become mere objects of pity and recipients of charity, when with the right treatment surgically and proper after-care and attention to their future employment they might become good citizens. The Queen's Hospital at Sidcup proposes, if the necessary coöperation is forthcoming, to be not only the scientific seat of this surgical work, but the organising centre for long courses of convalescent treatment, and an educating force for the future benefit of its charges. A large programme, but one that can be carried out by an energetic management. The clinical outcome is already wonderful, as will be seen from some of the records that we shall shortly publish in THE LANCET.

FIG. 4.



A corridor.

THE CONTROL OF VENEREAL DISEASES.

THE VENEREAL CLINIC: ITS ORGANISATION AND ADMINISTRATION.

By H. WANSEY BAYLY, M.R.C.S., L.R.C.P. LOND.,
CAPTAIN, R.A.M.C. (T.); MEDICAL OFFICER IN CHARGE VENEREAL DEPARTMENT, ST. GEORGE'S HOSPITAL; LATE PATHOLOGIST TO THE LONDON LOCK HOSPITALS.

WHEN on my return from France I was passed fit for light duty at home I was permitted, by the courtesy of the War Office, to accept the post of medical officer in charge of the new venereal department at St. George's Hospital which was about to be inaugurated under the Local Government scheme. For my military duties I was attached to the Military Hospital, Rochester-row, S.W. (Venereal), where I have had the privilege of serving under Lieutenant-Colonel L. W. Harrison, D.S.O., R.A.M.C., whose experience in every aspect of the working of a venereal hospital—whether pathological, clinical, or administrative—is probably unequalled by any military officer or civilian practitioner in this country. Having enjoyed this double advantage of both military and civilian experience, and having been entrusted with the organisation and administration of a new clinic for the first nine months of its existence, I venture to hope that my experience may be of some help to medical officers who are organising similar clinics in various districts.

When I undertook the work at St. George's Hospital I anticipated but a very slow growth of the department and thought that 200 patients would be the outside figure for the first year. This number was, however, passed in the first six months. Discharges and new patients are now about balancing one another, so I have arranged the clinic on a basis of 400 cases per annum. I have endeavoured to organise the treatment as nearly as possible on the lines recommended by Lieutenant-Colonel Harrison, but as the department is essentially an out-patient one, and I have only four beds available for indoor treatment, I have been obliged to modify the procedure in some slight degree.

In a military hospital devoted to the treatment and research on venereal disease only, well provided with personnel and apparatus, and with plenty of available space for laboratories, treatment rooms and inspection rooms, where the patients are at hand and under discipline, both the study and treatment of venereal disease can be carried on under nearly ideal conditions. That the patients are all of one sex and the nurses are male also facilitates rapid work. In most civilian hospitals at present male nurses are almost impossible to obtain, and, as a rule, female nurses attend to both male and female patients. The laboratories also are frequently remote from the venereal department, and are closed during the hours of the evening venereal clinics.

In order to insure that there is no delay in commencing treatment in cases with infectious lesions, it is essential that examination for the presence of the *Spirochæta pallida* and gonococcus should be made at the time of the examination of the patient. Since little apparatus or space are required for these examinations, they can conveniently be made in the consulting room. Immediate examination of the blood or cerebro-spinal fluid for the Wassermann reaction and cell counts are not practicable, nor necessary; the specimens obtained at the clinic for these purposes can conveniently be referred to the nearest laboratory and the report will be to hand when the patient pays his next visit to the clinic.

I find it impracticable to mix the sexes, and have two clinics a week for men and two for women. The most convenient hours for my male patients are, as a rule, 6 to 9 P.M., and this applies to the majority of female patients. A considerable number of women patients, however, have to be at home in the evenings to prepare their husbands' food, put their children to bed, &c., and can only attend in the afternoon. The afternoon, also, is obviously more suitable for juvenile patients. I therefore have a male clinic from 6 to 9 P.M. on Mondays and Fridays, a female adult clinic on Wednesdays from 6 to 9 P.M., and a mixed women's and children's clinic from 2.30 to 5.30 P.M. on Fridays.

(1) *Staff.*—The staff of the special venereal clinic at St. George's consists of the medical officer in charge of the clinic, one male and one female clinical assistant, one dispenser, one sister, one nurse, and a porter. The medical officer in charge, dispenser, sister, and porter are permanent officials, while the clinical assistants and nurse hold these appointments for three months. If the work of the department and the financial grant does not require or permit of more than one clinical assistant, a male rather than a female is preferable, as a male can assist with both sexes, while it is obviously inadvisable for the male cases to be treated by a female assistant.

(2) *Accommodation.*—Five rooms are necessary. One consulting-room, one syphilis treatment room, one gonorrhœa treatment room, and two waiting-rooms, one for before treatment and one in which to rest after treatment.

(3) The *consulting-room furniture and outfit* are very simple. They consist of a table, a few wooden chairs, case sheets or books, red and black ink, tongue depressor in bowl of antiseptic, a bowl of antiseptic in which to dip the hands between cases, two pairs of rubber gloves, a washing basin and towels, two linen gowns, a flash-lamp, a plain wooden examination couch, and a small laboratory bench. On the latter are two microscopes (one with a dark-ground condenser for examination of spirochætes and one ordinary bacteriological for stained specimens), a suitable light, stains, Bunsen burner or methylated spirit lamp, slides, cover-glasses, Cornet's forceps, platinum needle, small lint squares about 3 inches by 3 inches, some slips of blotting-paper for drying slides, and a small bowl of antiseptic into which to throw slides that have been examined.

The *gonorrhœa treatment room* should be provided with a sink and washhand basin, an examination table with knee crutches for female patients, and two or three irrigation apparatus hung by pulleys from the ceiling, and fitted with rubber tubing and nozzles for irrigation of urethra and bladder. I have devised a portable irrigation sink at which the male patient stands during irrigation; it obviates splashing of the floor and the fluid is collected in a bucket placed underneath it. The examination table, irrigation outfits, and irrigation sinks were supplied to me at a reasonable cost by the Holborn Surgical Instrument Company.

The *syphilis treatment room* should contain two or three couch tables for the treatment of female cases. The male cases can be given intravenous salvarsan substitute in the sitting position with the arm resting on a small table, and the intragluteal injections of mercurial cream can be given in the standing position. I find that novarsenobenzol (Billon) gives as good results as any other preparation; it is also less irritating should there be any local leakage, is less frequently followed by annoying symptoms of reaction than most other preparations. It is extremely soluble and does not require neutralising. This preparation, also, when administered intramuscularly in an emulsion with creocamph according to Lieutenant-Colonel Harrison's method, is very well tolerated, and is only followed by severe pain in a small percentage of cases. I have discontinued using "galyl," as I find this preparation has less spirochæticidal power and is more often followed by both pathological and clinical relapse. It is more expensive than novarsenobenzol.

Every ampoule must be carefully examined before use for any crack or flaw in the glass, and the canary-yellow colour noted as the tinge deepens to orange if the vacuum has become destroyed and oxidisation has taken place. Also at the moment when the neck is broken off a characteristic "pop" should be heard. For intravenous administration each 0·1 grm. of novarsenobenzol, which we call NAB for short, may be dissolved in about 1 c.c. of sterile distilled water, but twice this concentration can be used without fear. The NAB can be administered intravenously or intramuscularly with a 10 c.c. record syringe. It is unnecessary to boil the syringe every time before use: if it be kept in methylated spirit and washed out with sterile water before and after use, it remains quite aseptic, and the danger of cracking, inseparable from sterilisation by boiling, is avoided.

It is usually impossible for the patients to attend oftener than twice a week, which is quite sufficiently often for syphilitic cases. Indeed, after the first week, unless they are receiving half-doses twice a week, which I think gives better results than the full dose once a week in very chronic cases (such as interstitial keratitis, chronic superficial glossitis, gummatous infiltration of the testicle, or lesions of the central nervous system), one visit a week is quite enough. No home treatment other than a mouth wash and a medicine containing pot. iod. is usually required for cases of syphilis. With gonorrhœa, however, efficient home treatment is necessary, and both male and female patients must be supplied with suitable apparatus for efficient irrigation of urethra or vagina. I have made arrangements so that patients, by depositing 2*s.* 6*d.*, can obtain the loan of such an apparatus, the deposit being returned to them when they return the apparatus at the end of their treatment.

Either I or my clinical assistant demonstrate the method of posterior irrigation to the male patients and a nurse to the female patients.

In cases of gonococcal vulvitis and vaginitis in young children the mothers are instructed how to irrigate with pot. permang. and then fill the vagina with protargol solution and hold the child's legs up high for a quarter of an hour afterwards, so as to prevent the protargol escaping. It is obviously useless to attempt to treat gonorrhœa at the clinic unless the patients are carefully instructed as to home treatment. One or two visits to the clinic weekly will be quite sufficient for other treatment, such as swabbing cervix or vagina, massage of prostate, bougie dilatation, administration of vaccines, &c. The patients must be instructed to hold their water for three or four hours before coming to the clinic in order that urethral discharge, turbidity of urine, threads, &c., can be investigated at each visit.

Instruments.—I have found the following list of instruments and glass to be sufficient for the work of the clinic.

Instruments.

1 set Ferguson's specula.	1 urethral electric cautery and holder.
1 pair vulsellum forceps.	3 conical-nosed glass urethra syringes.
6 Playfair's probes.	3 1-c.c. glass syringes.
2 pairs tampon forceps.	3 10-c.c. record syringes.
2 female catheters.	1 steriliser.
1 set metal bougies, curved, 2·5 to 17/20.	1 pair dressing forceps.
1 set metal bougies, straight, 2·5 to 17/20.	1 pair dissecting forceps.
1 set Harrison's gum elastic whip bougies 1–6.	1 pair instruments forceps.
1 Kollmann's dilator for prostatic urethra.	6 gum elastic catheters.
1 urethroscope and battery.	1 tongue depressor.
6 urethral swab holders.	2 pairs scissors.
1 set scalpels.	3 enamelled trays.
	1 instruments cupboard.

Glass.

2 2-pt. measuring glass jugs.	12 Janet's urethral cannulæ (male).
1 2 urine glasses.	6 female catheters.
2 2-oz. glass measures.	4 glass bowls.

The total initial expenditure in surgical instruments, microscopes, irrigators, examination tables, glass, and apparatus and furniture supplied by surgical instrument-makers will be about £100.

Routine of examination, &c.—The patients are admitted to the consulting-room in rotation and time is saved if the old cases are seen first, for they can then receive their routine treatment from the clinical assistant while the new cases are being examined by the surgeon. Every new case has his name and address entered by the surgeon in the identification book, and this book is kept privately by the surgeon for his own personal reference only. The patient is then given a small card of a different colour for the two sexes, on which is printed the hours and days of the clinic. The patient's number is written on the back of this card, which he takes away with him. He is also given a prescription book, on which his number is written, in which is entered all medicines, lotions, or ointments, mouth-washes, &c., that are prescribed for home treatment. This book is presented by the patient to the dispenser, who gives him the medicaments ordered, and at the end of the clinic hands the books to the porter, who files them. On subsequent visits the patient presents his number card to the porter, who then hands him his prescription book, which the patient gives to the surgeon when he enters the consulting-room.

After entering a new patient's name and address in the identification book the surgeon examines the patient and enters the particulars in the case-book. These particulars comprise personal and family history, history of infection and onset of symptoms, and condition at time of first attendance. The case-sheet also contains columns for treatment, progress, complications, and pathological examinations. Male cases should be examined nude and a routine investigation made of anus, mouth, throat, scrotum, skin, and lymphatic glands. Female cases should be investigated on the examination table as a matter of routine, as but little reliance can be placed on the patients' statements, and quite frequently vulval or anal lesions or a marked vaginal discharge are found to be present in patients who have stated that no such conditions existed. If the passage of a vaginal speculum is tolerated, one should be passed as a matter of routine, and the cervix and os uteri carefully examined. Any discharge from cervix or urethra must be examined for the presence of gonococci. As a matter of routine, blood is taken for the Wassermann reaction in every case of lesions that might possibly be syphilitic. The exudate from lesions which are suspected to be of an early syphilitic nature is always examined for the *Spirochæta pallida*, and in every case of possible gonorrhœa the urethral discharge is examined for gonococci and the urine for threads and turbidity.

I am myself of the opinion that a patient should not be branded as a syphilitic until the diagnosis has been fully established, and for this I consider that often both clinical and pathological evidence is required. A typical primary sore in conjunction with delayed onset after exposure to infection and typical adenitis may be taken as conclusive, as may also the presence of typical *Spirochæta pallida*, but the identification of the *Spirochæta pallida* is not quite so easy as some imagine and the inexperienced may easily confuse it with some of the other spirochætæ so frequently found in inflammatory or ulcerative lesions.

Unless the greatest care has been spent on the titration of reagents I consider the Wassermann reaction quite unreliable from the diagnostic point of view unless strongly positive, and I am personally of the opinion that very occasionally even a strongly positive Wassermann reaction may be produced by tissue changes that are other than syphilitic in origin.

My opinion as to the great value of the Wassermann reaction for controlling treatment and as an aid to diagnosis remains unaltered, but the general tendency of practitioners to consider any blood test returned as "positive" as conclusive evidence of syphilis in the absence of any other signs or symptoms, appears to me to show a degree of faith that may not be justified.

Every patient who has received an injection of salvarsan substitute at his last visit should be interrogated as to symptoms of intolerance and reaction, comprising vomiting, rigor, eyes, diarrhœa, headache, urine, pain, and skin lesions. The urine should be examined for albumin before an NAB injection is given, and old cases have their weight taken and their urine examined always before they enter the consulting-room. I have a "reaction" column in every case-sheet with initial sub-headings—V., R., E., D., H., U., P., S. for the symptoms mentioned above, and I enter ++, +, ±, – under these headings at every visit, indicating severe, marked, slight, or absence, so that a glance at the case-sheet shows me at once whether the patient is tolerant or intolerant to the drug. If there are any marked symptoms of intolerance the dose is either omitted or reduced. In-patients should have their temperature recorded every four hours, as pyrexia is another symptom of intolerance of considerable value.

The patient should fast for three hours before and after receiving an intravenous injection. The regrettable occurrence of severe or even fatal crises that used some years ago occasionally to arise with most syphilologists with an extensive series of patients under salvarsan treatment was, I think, due to our lack of knowledge and experience as to the warnings of commencing intolerance. No definite course of injections can be rigidly adhered to, though the intravenous course recommended by Lieutenant-Colonel Harrison as suitable to the majority of cases can usually be tolerated. This course consists of three injections of 0·45 grm. NAB in the first eight days with four-day intervals; then a rest for a fortnight and two injections of 0·6 and 0·75 grm. at a weekly interval; then another fortnight's rest followed by two weekly injections of 0·9 grm. This course therefore consists of seven injections of NAB (4·5 grm. in all) spread over two months. Children tolerate the drug well and should receive doses proportional to their age, as with drugs given by the mouth. A weekly intramuscular injection of 1 gr. Hg is given. Any sign of intolerance to either arsenic or mercury requires a modification of this scheme. Occasionally a patient is met who shows no intolerance to the arsenic beyond an acute vaso-dilator crisis immediately after injection, with flushed face, swollen throat, and streaming eyes and nose. If five to ten drops of adrenalin, 1 1000, be injected subcutaneously five minutes before the administration of the NAB, the recurrence of these symptoms with the next injection can usually be prevented.

In 1913 I published a paper in THE LANCET on the dangers and complications of salvarsan treatment, and mentioned six cases that had caused me grave anxiety out of a series of 1000 injections. At that time I advocated giving two maximum doses (0·6 grm. salvarsan or 0·9 grm. neosalvarsan) at 48 hours' interval at the commencement and conclusion of a three months' course of mercurial injections. Although I found that this scheme gave excellent therapeutic results, and was well tolerated by the very great majority of cases, I had to give it up, in view of the six cases mentioned above and one fatal case that occurred shortly after the 1100th injection.

In over 2000 injections that I have had under my treatment at St. George's and Rochester-row Hospitals during the last nine months, by adopting Lieutenant-Colonel Harrison's scheme and keeping a sharp look-out for all the different symptoms of intolerance, I have met no case that has caused me any serious anxiety, and the therapeutic results have been quite satisfactory.

I consider that it is quite safe to treat syphilitics under intravenous injections of NAB as out-patients, provided that they are kept lying down and under observation for an hour after each injection. If they then feel well, they can be permitted to proceed to their homes, but they should be detained in hospital if any marked symptoms of reaction become manifest.

With a clinic of 400 cases per year, as the average period for attendance is two months, there will be 66 patients attending

at any one time, and these spread over four clinics per week mean an average attendance of about 20 at each clinic. All gonorrhœa cases and syphilitics for the first week attend twice a week. Four beds—that is, 6 per cent. of the number of patients attending—will be found to be quite sufficient.

Those requiring admission will be: (1) Patients with severe reaction after injection with NAB; (2) female patients with inguinal abscesses, extensive ulceration of vulva, or abscess of Bartholin's gland; (3) male patients with acute epididymitis, cystitis, or prostatitis, extensive or phagedenic sores of penis, bubo, or retention of urine.

Lancashire County Scheme.

Progress is being made in the organisation of a scheme by the Lancashire County Council. Provisional arrangements have been entered into for the bacteriological examination of specimens at the Universities of Liverpool and Manchester, and the laboratory of the Public Health Department of the Burnley Corporation. In addition, negotiations are well advanced with the boards of management of seven public institutions in various parts of the county for the establishment of treatment centres; and, further, a working arrangement has been provisionally agreed upon with the health authorities of three of the Lancashire county boroughs. The total cost of the scheme is estimated at £14,000 a year.

Enlightenment Campaign in Glasgow.

The Glasgow and West of Scotland Branch of the National Council, of which Dr. A. K. Chalmers is honorary secretary, have arranged a series of lectures for the purpose of instructing public opinion. The first of these will be delivered in the M'Lellan Galleries, 270, Sauchiehall-street, to-day, Friday, Nov. 2nd, at 8 P.M., on "The Social and Administrative Aspects of Venereal Diseases," by Sir Malcolm Morris. Two lectures will follow, specially designed for those interested in educational work, in the Masonic Halls, 100, West Regent-street: on Nov. 9th, "Responsibility of Parenthood," by Dr. Winifred Cullis, D.Sc.; Nov. 16th, "Medical Aspects of Venereal Diseases," by Dr. Harriet Mackenna, the time in each case being 8 P.M.

Council Schemes in Ireland.

The Irish Local Government Board issued last week a circular to sanitary authorities of county boroughs, county councils, governing bodies of hospitals and infirmaries, and boards of guardians in regard to venereal diseases, announcing that the measures already adopted in Great Britain are to be extended to Ireland, and that the Board will pay 75 per cent. of the cost. Sanitary authorities are directed forthwith to prepare draft schemes for the Board's approval, and it is pointed out that time will be saved if they enter at once into preliminary negotiations with the authorities of hospitals and universities for the necessary facilities for diagnosis and treatment. Regulations are submitted (under Section 148 of the Public Health (Ireland) Act, 1878) for county boroughs, and draft regulations are sent for county councils, as well as a memorandum of instructions, based on that prepared by Sir Arthur Newsholme.

VILLAGE SETTLEMENTS FOR DISABLED EX-SERVICE MEN.

A SCHEME TO COMBINE RESTORATIVE TREATMENT WITH INDUSTRIAL AND SOCIAL RECONSTRUCTION.

FOR the past year a group of men and women have been engaged in working out a practical scheme of which the main objects are as follows: (1) To restore disabled sailors and soldiers to health of mind and body; (2) to train them for settlement in villages and on the land; (3) as a natural result, to encourage the founding of small self-supplying village communities, where local industries and handicrafts shall be pursued on sound and just lines.

A provisional committee has now been constituted to carry out these aims, the members at present being Sir Robert Armstrong-Jones, Major E. A. Belcher, Lord Henry Cavendish-Bentinck, M.P., Mr. Noel Buxton, M.P., Mr. Warwick Draper, Dr. R. Fortescue Fox (chairman), Lady Grogan, Mr. W. Cecil Harris (honorary treasurer), Prof. W. R. Lethaby, Dr. Egbert C. Morland, Mr. Alfred H. Powell, Mr. Fred Rowntree, Sir George H. Savage, and Mr. Wilfred Trotter. Miss Hilda Fox is the honorary secretary, to whom communications and offers of service may be addressed at 36, Devonshire-place, W. 1.

The following are the guiding principles of the scheme:

Healing and restoration after certain types of disablement is a slow and tedious process, demanding patience and faith. The training for a new trade or profession, or for some modification of the old, is also a slow process. It seems, therefore, a matter of common-sense and humanity to carry on the two together, and to provide for each man who needs it a system of curative treatment, combined with manual or mental training, such as will cure his disabilities, develop his natural gifts, and equip him to become, as far as possible, and at the earliest possible date, a self-supporting citizen.

The committee desire that a large number of disabled and delicate men may be trained for rural life and village crafts, believing that in a congenial rural life lies the cure for their physical and mental ills. They must be attracted to the training centre not only by the hope of physical or mental cure, but by the prospect of some degree of home life, self-government, and self-development. The committee discard the idea of military discipline, and propose that the men shall form a committee among themselves to coöperate in the management of the place and help to evolve the necessary rules and regulations. Not only will curative treatment and training be given, but the social and industrial aspects of the settlement will be studied and some system for the fair production and distribution of goods thought out and applied.

The village settlement will serve two purposes. It will be a healing and training centre, from which many hundreds of disabled men will pass every year restored to health and vigour, and ready to contribute to the coming colonisation of the home country or to practise the craft or art for which they will have been newly trained. It should also naturally become the nucleus of something more lasting, for it is proposed that little by little selected men shall settle with their families on the particular estate, there forming the basis of a permanent village settlement, with its own life and industries, institutions, and interests.

Some of the details of the scheme may be given.

Site and size of the Settlement.—From the medical point of view it is essential that all the circumstances and surroundings of the settlement—such as situation and climate—shall favour health. Town areas are therefore undesirable, as also flat or damp country. For the best results surroundings of natural beauty and tranquillity are necessary. If it proves most desirable to settle near an existing town, these features must still be secured. In any case fertility of soil and convenience of transport must be regarded, together with ready opportunity for public service of water, electricity, and the like.

The committee strongly wish, if possible, to begin with an area of one square mile (640 acres), suitable for a training centre of, say, 1000 disabled men at a time, that being an economical medical unit. Of these, perhaps two-thirds will study agriculture and allied subjects, the rest handicrafts and business subjects. A certain proportion as they pass through will become desirous of settling permanently on the land or in villages with their families, and ultimately it is hoped that about 200 ex-Service men may make their homes on the estate.

Types of disablement suitable to the scheme.—The types of case most likely to benefit by such a scheme of combined treatment and training are: (1) A large number of men suffering from shell-shock, neurasthenia, and depression, for whom the encouraging and home-like influences of such a settlement are more suited than institutional treatment; (2) men crippled by wounds or by stiff or wasted joints or muscles; (3) men who have suffered amputation; (4) certain cases recovering from malaria or other fevers, and delicate men for whom a country life is prescribed. Incurable cases—that is to say, men who cannot reasonably be expected to recover any real capacity for work—will not be received; nor those who still require surgical aid or residence in hospitals. The cases to be selected for the settlement will belong to the category of out-patients. Much importance is attached to the mixture of all kinds of curable disability and disablement. The patients will not be arranged in groups according to the form of disability from which they suffer—e.g., (1) mental shock, (2) neurasthenia, (3) paralysis, (4) amputation, (5) wounded limbs, and so on—but will live, work, and be treated together, the more severe with the slighter cases. In this way the intensive effects of gathering together numbers of men suffering from a particular form of abnormality may be avoided. The committee have the support of eminent authority in believing that aggregation of many cases of the same malady may prove as injurious in mental and nervous disorders as in infective illnesses.

Principles of employment.—The three main considerations are: (1) Medical; (2) the man's natural tastes and abilities; (3) the likelihood of financial success. Upon arrival each man should go before a committee consisting of experts in (1) orthopædics, neurasthenia, and general medicine (2) education, (3) technical education, (4) industry and employment, who should give him their best advice upon the

selection of an occupation. Each case must be considered upon its own merits, so that as far as possible some work may be found for every man which will aid his physical cure, sooth and occupy his mind and bring out his latent talents, and provide a safe investment for the future. The medical man in charge will take periodical measurements and records of the patient's muscular power and movement, fatigability and general progress.

The present sincere desire for industrial reform, widely and deeply felt, suggests that some experiments in this direction might be tried which would be of value in the future. The conditions for such experiments are good, as the men are not able-bodied, and therefore at first business principles are not strictly applicable, although economic soundness must be an aim and should be a natural result.

Factories will doubtless remain in certain industries. But there is a growing reaction against the universal recourse to the factory system, with its specialisation of labour, speeding-up, and lack of personal relationships. There is in many quarters a desire to return to a modified form of the old craft guilds, in which a man may learn to create articles for use of a high standard and himself become a master craftsman, not wholly spending his life in performing some mechanical and deadening process. The workshops of the proposed settlement must aim at high conditions of work, whereby articles are well and heartily made, and to attain this it seems desirable that the producers shall have some share and interest in the things which they have produced, associated, as far as possible, in self-governing workshops.

Administration.—One of the most important features of the scheme is the home life within it. It is believed that many men, if they could have their wives and children living with them would happily settle down to a prolonged period of training, extending over months or even years. The suggestion therefore is that cottages should be provided as homes for these families. Any patient during his course would be free to apply to the committee for the use of a cottage for himself and his family, and it might well be that the privilege of occupying one of these could be dependent upon good work and good conduct, as well as upon suitability. Some of the families would only be there for a time; others would stay permanently and form the nucleus of a new village. In either case the presence of home life within the training centre would be a strength to it in many ways.

It is proposed that compulsory and harassing regulations should be absent from the Settlement, and that the men themselves should be represented in its administration and direction.

URBAN VITAL STATISTICS.

(Week ended Oct. 27th, 1917.)

English and Welsh Towns.—In the 96 English and Welsh towns, with an aggregate civil population estimated at nearly 17,000,000 persons, the annual rate of mortality was 12·0, against rates rising from 10·8 to 12·0 per 1000 in the four preceding weeks. In London, with a population exceeding 4,000,000 persons, the death-rate was 13·2, or 0·3 per 1000 above that recorded in the previous week; among the remaining towns the rates ranged from 4·0 in Dewsbury, 5·5 in Edmonton, and 5·9 in Gillingham and in Ilford to 17·6 in Wakefield, 20·8 in Brighton, and 23·7 in Stockton-on Tees. The principal epidemic diseases caused 265 deaths, which corresponded to an annual rate of 0·8 per 1000, and included 121 from infantile diarrhœa, 43 from whooping-cough, 42 from diphtheria, 33 from measles, and 13 each from enteric fever and scarlet fever. The deaths from diarrhœa, which had been 278, 243, and 179 in the three preceding weeks, further fell to 121, and included 31 in London, 14 in Liverpool, and 7 each in Hull and Newcastle-on-Tyne. The 1094 cases of scarlet fever and 1357 of diphtheria under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital were respectively 73 and 43 above the numbers remaining at the end of the previous week. Of the deaths from all causes in the 96 towns 183 resulted from violence. The causes of 31 deaths were uncertified, of which 6 were registered in Birmingham and 2 each in Rochdale, South Shields, and Tynemouth, but not one in London.

Scotch Towns.—In the 16 largest Scotch towns, with an aggregate population estimated at nearly 2,500,000 persons, the annual rate of mortality was 11·4, against 11·8 and 12·1 per 1000 in the two preceding weeks. The 231 deaths in Glasgow corresponded to an annual rate of 10·8 per 1000, and included 9 from diphtheria, 6 from infantile diarrhœa, 3 from whooping-cough, and 2 each from enteric fever and measles. The 83 deaths in Edinburgh were equal to a rate of 13·0 per 1000, and included 2 from diphtheria and 1 each from scarlet fever, whooping-cough, and diarrhœa.

Irish Towns.—The 84 deaths in Dublin corresponded to an annual rate of 11·0, or 6·9 per 1000 less than that recorded in the previous week, and included 6 from infantile diarrhœa, 2 from whooping-cough, and 1 each from enteric fever, measles, and diphtheria. The 97 deaths in Belfast were equal to a rate of 12·9 per 1000, and included 3 from infantile diarrhœa, 2 from measles, and 1 each from enteric fever and scarlet fever.

ROYAL ALBERT HOSPITAL, DEVONPORT.—A balance-sheet has just been issued from the Constructive Department of H.M. Dockyard, Devonport, which shows, as a result of the first year's collections for the Royal Albert Hospital, Devonport, the sum of £1000 has been raised by the officers and employees for the funds of that charity.

THE SERVICES.

ROYAL NAVAL MEDICAL SERVICE.

To be temporary Surgeons: K. L. S. Ward, S. C. Shaw, H. B. Bullen, C. V. Isard, F. N. Reynolds.

ARMY MEDICAL SERVICE.

Temp. Surg.-Gen. Sir G. H. Makins, K.C.M.G., C.B., to rank as Lieutenant-General whilst specially employed.

Lieut.-Col. H. Davy, C.B., R.A.M.C., T.F., to be temporary Colonel.

Lieut.-Col. H. M. Jacques, D.S.O., Canadian A.M.C., to be temporary Colonel whilst employed as Assistant Director of Medical Services, vice Lieut.-Col (temp. Col.) J. F. Fotheringham, C.M.G., Canadian A.M.C.

Major T. A. Lomer, Canadian A.M.C., to be Deputy Assistant Director of Medical Services, vice Temp. Col. H. M. Jacques, D.S.O., Canadian A.M.C.

TERRITORIAL FORCE.

Lieut.-Col. D. L. Hamilton, Field Ambulance, to be Deputy Assistant Director of Medical Services.

ROYAL ARMY MEDICAL CORPS.

Temp. Hon. Capt. P. Macdiarmid to be Temporary Honorary Lieutenant-Colonel.

Major and Bt. Lieut.-Col. T. D. Acland, R.A.M.C. (T.F.), to be temporary Lieutenant-Colonel.

Capt. J. H. Gurley to be acting Lieutenant-Colonel whilst in command of a Convalescent Depôt.

W. H. G. Aspland to be temporary Major.

Temp. Major W. B. Edwards and Major G. Maydon relinquish the acting rank of Lieutenant-Colonel on re-posting.

Temp. Capt. T. F. O'Hagan, C.A.M.C., to be acting Major.

To be acting Majors whilst Chemical Advisers: Temp. Capt. G. H. Clark, R.A.M.C., Temp. Capt. B. J. Collingwood, R.A.M.C., Temp. Capt. C. A. L. Evans, R.A.M.C.

Capt. O. R. McEwen relinquishes the acting rank of Major on re-posting.

Temporary Lieutenants to be temporary Captains: R. C. Muir, G. J. Farie, C. C. Kerby, E. F. R. Alford, T. M. Bellew, W. F. Addey, J. G. Shanklin, A. J. Hutton, H. S. Jones, A. M. Barlow, A. A. Murison, R. O. H. Francis, H. W. Ogle-Skan, J. E. Frere, H. Bowring, C. G. T. Mosse, R. H. Beardsley, R. McAllister, J. G. G. Pigott, W. G. McAfee, H. G. Westropp, J. D. Pearson, H. P. W. Lincoln, J. Whitehead, A. N. Hodges, C. A. Joll, H. Chapple.

To be temporary Captains: W. E. C. Dickson, T. L. Wormald, F. H. Ellis, M.C., late Captain, Rhodesian Regiment, J. L. Digby, W. J. B. Brown, A. C. Freeth.

To be temporary Lieutenants: T. J. D. Quigley, A. H. Saward, T. F. Collins, T. M. Boyd, J. M. Muir, V. J. Cullen, G. R. Harcourt, G. E. J. Greene, S. E. Cathcart, T. A. Clarke, H. H. James, A. G. Ede, I. C. MacKenzie, C. Murray, S. Vosper, L. R. G. de Glanville, H. F. Powell, F. E. Clay, F. W. Maunsell, W. Dalgleish, R. H. G. Bruce, W. B. Dove, J. McCalg, A. S. Webley, C. H. A. Alderton, J. Ramsbottom, E. W. Diggett, W. O. Pitt, J. B. Burt, S. Stockman, R. E. Moyes, H. Walker, V. T. P. Webster, J. J. Smith, A. R. Barlas, M. J. Landy, R. W. Greatorex, J. M. Sheridan, W. T. Thomson, F. J. Cutler, I. Feldman, L. F. Jamieson, E. Clark-Cohen.

E. V. Keller to be temporary honorary Lieutenant.

Officers relinquishing their commissions: Temp. Major W. J. Prendergast. Temp. Capts.: W. V. Coffyn, F. W. W. Griffin (on account of ill-health contracted on active service; granted the honorary rank of Captain), R. M. Beaton (granted the honorary rank of Captain), A. E. Stevens, W. T. Dobson (on account of ill-health contracted on active service), J. MacInnes (on account of ill-health), W. B. Thomson (on account of ill-health), G. J. Wilson (on account of ill-health), F. T. Simpson, M.C., G. de Bec Turtle, D. S. Cooper, C. J. Sparrow (granted the honorary rank of Captain). Temp. Lieuts.: W. S. Wallace J. C. Lee, T. Waterhouse, T. Stang, S. G. Kean, W. C. Brown, C. M. Anderson, J. W. MacKie, F. G. Pedley, M.C., G. L. Gall.

SPECIAL RESERVE OF OFFICERS.

Capt. S. Miller to be acting Lieutenant-Colonel whilst in command of a Field Ambulance.

TERRITORIAL FORCE.

Lieut.-Col. D. L. Hamilton to be seconded whilst holding an appointment as Deputy Assistant Director of Medical Services.

Lieut.-Col. D. L. Hamilton to be restored to the establishment on vacating the appointment as Deputy Assistant Director of Medical Services.

Capts. G. D. Thomson and D. Macaulay relinquish their commissions on account of ill-health.

J. O. Wilson (Major, late R.A.M.C.) to be temporary Captain and Medical Officer, 2/1st Battalion, County of Aberdeen Volunteer Regiment.

J. M. Lithgow (late Lieutenant, 1st Volunteer Battalion, Leicestershire Regiment) to be temporary Captain and Medical Officer, 2/1st Battalion, Leicestershire Volunteer Regiment.

W. L. Brown to be temporary Captain and Medical Officer, S.W. Group.

R. H. F. Bostock to be temporary Lieutenant and Medical Officer, 2nd Battalion, North Riding Volunteer Regiment.

DEATHS IN THE SERVICES.

Brig.-Surg. Stephen Henry Dickerson, A.M.D. (retired), at his residence, Devennen House, South Cornwall, on Oct. 22nd, in his eighty-seventh year. He received his first commission in 1854, retiring on half-pay in 1880, when he took up his residence in Cornwall. He interested himself in local benevolent work and was held in the highest esteem by all who knew him.

Correspondence.

"Audi alteram partem."

PROPHYLAXIS IN VENEREAL DISEASE.

To the Editor of THE LANCET.

SIR,—At one time I had medical charge of an establishment employing 2000 men—mostly young and away from home. Venereal diseases were very prevalent among them. I gave the usual lectures—with the usual result. I could not prevent immorality. However, my duty, that for which I was employed and paid, concerned rather the health and efficiency of my charges. At length I delivered a lecture, often repeated, which produced results. I explained in simple language the nature of the several venereal diseases, pointing out that the microbes, when accessible, were easily killed by antiseptics, and that immediately after infection they were present, not in the urethra (a closed pipe) or under the surface of the skin, but on the surface itself. I insisted that if the men exposed themselves to infection they must disinfect without delay. My dispensary attendant had orders to give any man who asked for it an ounce of solution of permanganate of potash (1/2000) and a little cotton-wool. The men were instructed to sponge the penis carefully, especially about the frænum and the meatus, the lips of which were to be a little everted, with the cotton-wool wetted with the antiseptic. Any other antiseptic will do equally well. Within a few days I ceased to see fresh cases. Thereafter not one originated in the establishment for more than six months. Then one occurred in a man who had taken no precautions. Then no more. I daresay I had some good fortune, but there can be no doubt that the very simple procedure adopted was extraordinarily successful. After all, it was only such as any surgeon would use did he fear infection of any sort. It was a form of very early treatment.

More elaborate methods are cumbersome and unnecessary. Owing to the delay involved they are less effective. They are not required if disinfection be carried out immediately. For instance, injections into the urethra and calomel cream are quite unnecessary. The latter is a feeble antiseptic and is useful only when, much later, the micro-organisms have penetrated the tissues. I take it, no surgeon would dream of disinfecting his hands with calomel.

I offer no excuse or apology. I was right, and every normal person will think I was right. Indeed, I have never met anyone who thought otherwise. I can be blamed only by foolish fanatics, now I think few in number, who may be ignored. The fear of disease does not prevent immorality. Young men who know much about venereal diseases are on the average much less continent than young girls who know little. I am told, I do not know with what measure of truth, that since the present war began from one-third to one-quarter of the British Army has contracted venereal disease. It is certain, at least, that an enormous proportion of the colonial forces have suffered, and that abroad, at any moment, tens of thousands of men of all ranks are in detention camps. What will happen when the soldiers who have suffered in hospital, but not in the field, return to their homes? Must we expect such another epidemic as that which swept Europe in Tudor times and was then known as the Great Pox in contradistinction to that lesser evil, the small pox? It is surely a bitter reflection that there lay, and lies, at hand in every medical military inspection room the means to prevent all this suffering, loss of efficiency, and future danger to the public.

We must bear in mind the helplessness of all classes under our current laws and the protection afforded by these laws to the criminal. In England at the present day if one person wilfully kills another with arsenic he is hanged by the neck till he is dead. If he tries to poison with arsenic but fails, he is condemned to a long term of penal servitude. But if he wilfully poisons with venereal disease, even to death, the law holds him guiltless provided the poisoning is done in a particularly cruel and treacherous way. Even when the sufferer is a perfectly innocent person (e.g., a wife) the law punishes not for the poisoning but for the infidelity.

I am, Sir, yours faithfully,

Southsea, Oct. 27th, 1917. G. ARCHDALL REID.

SUCCESS AND FAILURE IN THE TREATMENT OF TUBERCULOSIS.

To the Editor of THE LANCET.

SIR,—In addressing you last week my purpose was not to mete out praise or blame to anyone, but simply to give things their proper proportions and relations. Your assurance that the object of your leading article was precisely to show that "the foundations of an efficient anti-tuberculosis scheme have been well and truly laid" is especially serviceable at a time when war conditions threaten to leave us between "the devil and the deep." The effects of the war on the incidence of tuberculosis constitute an added reason for urgency, yet, in many quarters, contrariwise the war forms the excuse for doing nothing. If the foundations are sure and the need is growing, for Heaven's sake let us go ahead with the building.

I am, Sir, yours faithfully,

Edinburgh, Oct. 27th, 1917. R. W. PHILIP.

THE WELFARE OF THE BLIND.

To the Editor of THE LANCET.

SIR,—May I draw attention to an error inadvertently made by Mr. Arnold Lawson in his interesting "Notes on the Report of the Departmental Committee" in your issue of Oct. 27th. The same mistake appeared in a notice in the *Times* of Oct. 26th. In referring to the recommendations of the committee concerning workshop accommodation for the blind, Mr. Lawson writes that the committee "calculates that about 3000 such shops, at a cost of £100–£175 each, are needed." The committee's statement (para. 219) reads: "Some 3000 additional *places* (my italics) are urgently required, and the estimated cost per place varies from £100–£175." This statement means additional workshop accommodation for that number of individuals, and is based on the committee's conclusions (para. 139) that there are approximately 3000 blind persons employed in workshops at present, and rather more than 3000 blind persons capable of training and employment, but receiving neither.

I am, Sir, yours faithfully,

Harley-street, Oct. 29th, 1917. J. B. LAWFORD.

ETHER-OIL ANÆSTHESIA BY THE RECTUM.

To the Editor of THE LANCET.

SIR,—I was much interested in the article by Mr. H. M. Page on this subject in your issue of Oct. 27th. Gwathmey's method has been on trial sufficiently long to enable us to form a fairly accurate judgment of its merits. Probably its especial value lies in its application to cases which present difficulties with the ordinary methods of anæsthesia; prominent amongst these are, as Mr. Page says, cases of hyperthyroidism. Ether-oil per rectum, plus Crile's technique of rehearsals, gives excellent results. If I venture to criticise Mr. Page's article it is chiefly because he has omitted to mention the all-important contra-indication to the use of the method—viz., the existence of any pathological condition of the lower bowel. The danger of causing irritation of the mucous membrane in a normal case is not to be ignored,[1] and the fear of this has led me to use the method as little as possible. I am glad, therefore, to read that Mr. Page finds that 6 ounces of a 2 to 1 solution is safe, and at the same time gives adequate anæsthesia. I hope that this dosage will prove satisfactory in other hands. The whole future of the method depends upon the certainty of freedom from irritation of the lower bowel.

Another criticism that I should like to make is that Mr. Page does not give any warning as to the necessity of keeping a close watch upon the depth of anæsthesia. This may seem unnecessary, but it must be remembered that there is very little control over the anæsthesia; the dosage is not accurately known, and anæsthesia sometimes comes on unusually rapidly and quickly deepens. For this reason I find it advisable to leave the rectal tube *in situ*, with a clip on the end. Some of the solution can then be run off if necessary. Fortunately, a much lighter anæsthesia is adequate than with inhalation methods, and the minimum amount of the solution should be injected. In some cases

[1] Surg., Gyn., Obstet., 1917, vol. xxiv., p. 370.

some of the injection is returned and the anæsthetist is then in the dark as to the depth of anæsthesia to be expected. To prevent this it is a good plan before injection to place a pillow under the buttocks, which are then held together for a few minutes when injection is complete. If the patient has been anæsthetised in bed he should be moved carefully on to the operating table.

Distension of the intestine may occur (it probably always does); has Mr. Page found that it interferes with abdominal surgery? I cannot agree with him that ether-oil is a good method in oral surgery; one cannot guarantee the presence of a vigorous cough reflex, and, if it is present, I do not think it is welcome to the surgeon. There can be very little doubt that intratracheal insufflation of ether is the best method in this branch of military surgery. Small quantities (3-4 oz.) of a solution of suitable strength of ether-oil may be used to great advantage as an addition to the preliminary hypodermic to overcome the difficulties or dangers of induction in special cases. But it must not be forgotten that the highly sensitive and fastidious patient may not take kindly to ether-oil per rectum.

I am, Sir, yours faithfully,

FRANCIS E. SHIPWAY.

Queen Anne-street, W., Oct. 29th, 1917.

BRITISH HOSPITALS' ASSOCIATION AND INCREASED GRANTS FOR TREATMENT OF SOLDIERS.

To the Editor of THE LANCET.

SIR,—A conference was held by the British Hospitals' Association at Westminster Hospital on Oct. 19th for the consideration of the following subjects—viz.: (1) Increase of grants for treatment of soldiers, and (2) proposed payment for discharged soldiers. There was a large and representative attendance, and after full discussion the following resolutions were passed—viz.:

1. That, having regard to the abnormal advance in prices of provisions and all other commodities since the rates of payment for the treatment of wounded soldiers in civilian hospitals were fixed, this meeting is unanimously of opinion that formal representations should be made to the authorities concerned with a view to obtaining an immediate increase in such rates of payment.

2. That this meeting is of opinion that the scale of charges for the treatment of disabled sailors and soldiers in civilian voluntary hospitals, as proposed by the Ministry of Pensions (*vide* Schedule 1, "Instructions and Notes on the Treatment and Training of Disabled Men") is inadequate and would only partially meet the cost of such treatment, and strongly affirms the view that the scale of charges should be such as would cover the whole cost of the maintenance, including treatment given and remuneration in respect of professional medical services.

3. That the chairman and council of the British Hospitals' Association are hereby requested to consider the foregoing resolutions and take such action as may be necessary.

The executive committee have forwarded the resolutions to the secretaries and superintendents of hospitals, asking these officers to bring them to the notice of their managing committees, with a view to their sending to the association, not later than Nov. 10th, any comments which they may desire to express thereon.

We are, Sir, yours faithfully,

J. COURTNEY BUCHANAN, CONRAD W. THIES, } Honorary Secretaries.

14, Victoria-street, Westminster, S.W. 1, Oct. 26th, 1917.

A COMMITTEE over which Sir George Makins will preside has been appointed to inspect the hospitals for British troops in India and to issue a report regarding them.

CORNWALL COUNTY COUNCIL AND MIDWIVES.—The sanitary committee of the Cornwall county council has given £250 to the local county nursing association for the purpose of training five nurse-midwives who will work in parishes unprovided with midwives. The medical officer of health for the county of Cornwall, Dr. E. M. Clarke, states that Cornwall requires 20 additional midwives.

THE LATE MR. WILLIAM ELDER.—William Elder, L.R.C.P., L.R.C.S., L.M. Edin., died at his residence, Cottam, Bristol, on Oct. 14th, in his seventy-third year. The deceased devoted his life to medical missions; he was for 13 years superintendent of the Madras Medical Mission Dispensaries and Hospital and Medical School. He afterwards was appointed superintendent of the Medical Mission at Bristol, holding the appointment for over 30 years. He was held in high respect in Bristol and did a wonderful work amongst the poorer inhabitants of that city.

The War.

THE CASUALTY LIST.

THE following names of medical officers appear among the casualties announced since our last issue:—

Killed.

Major G. M. Hunt, M.C., Australian A.M.C., qualified at Sydney in 1911, and was in practice at Candelo, New South Wales, prior to joining the Australian Expeditionary Force. The award of the M.C. was recorded in THE LANCET of April 21st, 1917, p. 630.
Capt. J. Alston, R.A.M.C.

Died of Wounds.

Capt. F. B. Metcalfe, Australian A.M.C.
Capt. J. R. Tillett, Australian A.M.C.
Capt. J. Davie, Australian A.M.C.

Wounded.

Capt. E. P. Dark, M.C., R.A.M.C.
Lieut. W. B. Douglas-Drummond, R.A.M.C., attached Scots Guards.
Capt. J. A. Liley, M.C., R.A.M.C., attached King's Own Scottish Borderers.
Major W. H. Rennick, Australian A.M.C.
Capt. J. Howard, R.A.M.C.
Capt. H. A. Macmillan, R.A.M.C., attd. Leicester Regiment.
Capt. F. Metcalfe, R.A.M.C.
Capt. F. C. Pridham, R.A.M.C.
Capt. E. A. Lumley, R.A.M.C.
Capt. F. L. Bignell, Australian A.M.C.
Lieut.-Col. C. W. Thompson, Australian A.M.C.
Capt. G. A. Birnie, R.A.M.C., attached East Surrey Regiment.
Capt. T. Duncan, R.A.M.C., attached Royal Scots.
Capt. F. E. Keane, R.A.M.C., attached Argyll and Sutherland Highlanders.
Capt. A. E. Pringle-Paterson, R.A.M.C., attached Royal Scots.
Capt. F. W. Stone, R.A.M.C.
Capt. I. Faris, New Zealand M.C.
Capt. W. A. Todd, R.A.M.C., attached Norfolk Regiment.
Capt. H. F. Wilson, R.A.M.C., attached Durham Light Infantry.
Capt. F. W. Fay, Australian A.M.C.
Major H. L. Welch, D.S.O., Australian A.M.C.
Capt. C. H. Brennan, R.A.M.C.
Capt. J. E. Cable, R.A.M.C., attd. Northumberland Fusiliers.
Capt. W. G. Goudie, R.A.M.C., attached R.F.A.
Capt. H. B. Graham, R.A.M.C.
Capt. R. MacKinnon, R.A.M.C.
Capt. D. H. Russell, M.C., R.A.M.C.
Capt. E. B. Leech, R.A.M.C., attached West Yorks Regt.

CASUALTIES AMONG THE SONS OF MEDICAL MEN.

The following additional casualties among the sons of medical men are reported:—

Capt. E. T. Gaunt, R.A.M.C., killed in action, second son of Dr. J. P. Gaunt, late of Alvechurch, Worcestershire.
Capt. E. B. C. Burnside, The Buffs, killed in action, only son of Col. E. A. Burnside, A.D.M.S., Ripon.
Capt. D. W. Edwards, M.C., A.S.C., attached Royal Flying Corps, reported missing April 6th, 1917, now reported killed in action, younger son of Capt. D. W. Edwards, R.A.M.C.
Lieut. R. S. M. Inch, M.C., Norfolk Regt., killed in action, son of Dr. R. Inch, of Gorebridge, Midlothian, Scotland.

THE HONOURS LIST.

The following awards to medical officers are announced. The acts of gallantry for which the awards were made are not yet announced. All are members of the R.A.M.C.

Distinguished Service Order.—Temp. Capt. J. C. Sale, M.C.
Bar to the Military Cross.—Temp. Capt. H. R. MacIntyre, M.C. (The award of the Military Cross was recorded in THE LANCET of August 25th, 1917, p. 332.)
Military Cross.—Temp. Lieut. H. M. L. Crawford, Temp. Capt. L. H. Guest, Temp. Capt. W. L. A. Harrison, Temp. Capt. W. G. Johnston, Temp. Capt. R. Kennon, Temp. Capt. J. Kirton, Temp. Capt. W. J. Pearson.

THE Bronze Medal for Gallantry in Saving Life at Sea has been awarded by the King to Captain E. D. Gairdner, D.S.O., R.A.M.C., in recognition of his services when the transport *Iverna* was torpedoed in the Mediterranean on Jan. 1st last.

OBITUARY OF THE WAR.

JOSEPH CECIL HARRIS, M.R.C.S. ENG., L.D.S.,

CAPTAIN, ROYAL ARMY MEDICAL CORPS.

Captain J. C. Harris, who was killed in action on August 16th, was son of the late Joseph Harris, of Bilston, Staffs. He was educated at King Edward's School and Birmingham University, qualifying in dentistry in 1906 and taking the qualifications of the Conjoint Board four years later. He then joined Mr. W. G. Owen in dental practice at Wolverhampton. At the outbreak of war he was mobilised with the North Midland Field Ambulance, to which he was attached, and went to France early in 1915. In action first at Neuve Chapelle, he saw continuous service until he was killed instantly by a bomb which fell on a casualty clearing station. Captain Harris was a good all-round sportsman, playing hockey for Birmingham University and Stafford County. His fellow officers held him in esteem as a gallant comrade.

ROBERT DUNLOP BLACK FREW, M.D. GLASG., D.P.H.,

CAPTAIN, ROYAL ARMY MEDICAL CORPS.

Captain R. D. B. Frew, who was recently killed in action, was a graduate of Glasgow University, taking his M.B. in 1908 and his M.D. in 1912, afterwards holding resident appointments at the Glasgow Royal Infirmary, Monsall Infectious Hospital, Manchester, and the Manchester Hospital for Consumption. In 1913 he was appointed tuberculosis officer for the County Borough of Wallasey. Prior to the outbreak of hostilities he had joined the Territorial Force, with which he was mobilised very early in the war.

A medical friend writes of Captain Frew: "Although he had not long been in Wallasey, his even temper and genial manner had made him a host of friends. He was keen on his work, and there can be no doubt that a successful career lay before him. The news of his untimely death was received with sorrow by a wide circle."

JOHN JAMES PERCIVAL CHARLES, M.B., CH. B. EDIN.,

MILITARY CROSS,
CAPTAIN, ROYAL ARMY MEDICAL CORPS.

Captain J. J. P. Charles, who died of wounds on Oct. 6th, was son of the late Professor Charles, M.D., D.Sc., University College, Cork, and of Mrs. Charles, of Audley House, Swanage. He was educated at Cork and Edinburgh, taking his medical degree at Edinburgh University in 1909. He joined the Royal Army Medical Corps in August, 1914, and went to the front, where, after being twice wounded, he was mentioned in despatches and awarded the Military Cross. He was dressing cases on the field under heavy fire on July 31st when a sniper shot him, inflicting a wound from which he died after much suffering nine weeks later. An Army chaplain writes of Captain Charles's disregard for his own safety and his popularity in the battalion.

LESLIE OLDERSHAW, M.B., CH.B. LIVERP.,

CAPTAIN, ROYAL ARMY MEDICAL CORPS.

Captain L. Oldershaw, who was killed in France on Oct. 2nd, at the age of 24 years, was youngest son of George Oldershaw, M.R.C.S. Eng., of Walton, Liverpool. Educated at the Liverpool Institute and University, he graduated M.B., Ch.B. in 1915, immediately accepting a commission in the Royal Army Medical Corps, and being stationed at the First Western General Hospital, Fazakerley. After service in Gallipoli and Egypt he was transferred to France in the spring of this year, where he remained until his death, which was caused by a piece of shrapnel striking him on the head while he was returning from the firing line. His chief at Fazakerley writes of the excellent work done by Captain Oldershaw when he was attached to the hospital. He was a good horseman and musician. Last April he married Ruby, third daughter of Sampson Gannon, of Bootle.

JAMES WILSON PETTINGER, B.A., M.B., B.C. CAMB.,

CAPTAIN, ROYAL ARMY MEDICAL CORPS.

Captain J. W. Pettinger, who died on Oct. 6th of illness contracted on active service at the age of 43, was second son of the late Dr. G. W. Pettinger, of Manchester. He was educated at Selwyn College, Cambridge, and St. George's Hospital, London, taking his B.A. degree in 1896 and M.B., B.C. in 1902. After holding appointments as house physician and house surgeon at St. George's Hospital, he settled in private practice in 1903 at Kingsbridge, South Devon, becoming honorary medical officer to the cottage hospital there. In July, 1915, having volunteered for active service with the R. A. M. C., he was shortly appointed to a hospital ship running between the Dardanelles and England. Later he was on the cross-Channel route, when he developed a septic condition of his arm and was under treatment in Netley Hospital for some months, death being finally due to pneumonia.

Captain Pettinger showed great promise of success in his profession and his early death leaves a gap in a wide circle of friends.

JAMES JOACHIM NICHOLAS, M.B., B.S. MELB.,

LIEUTENANT-COLONEL, AUSTRALIAN ARMY MEDICAL CORPS.

Lieutenant-Colonel J. J. Nicholas, who was killed in France on Sept. 20th at the age of 27 years, was born in the Riverina district of New South Wales. Graduating M.B., B.S. with honours at Melbourne University in 1911, he became house surgeon to the Melbourne Hospital in 1912 and registrar a year later. He was an enthusiastic member of the Commonwealth Military Forces before the outbreak of war, and early in August, 1914, was gazetted as captain to No. 1 Australian Light Horse Field Ambulance. He proceeded overseas with this unit and saw service with them at Anzac. Promoted major in January, 1916, he was transferred to the 3rd Australian Field Ambulance, with

whom he saw service in France. In December of the same year he was appointed D.A.D.M.S. to the 1st Australian Division. Shortly before his death he was promoted to the rank of lieutenant-colonel, and was then the youngest ambulance commander in the A.I.F. He was making an inspection of a dressing station when he was struck by a shell and killed instantly.

Colonel Nicholas was a man of strong personality. His chief writes of him: "Throughout his life he showed keenness, initiative, and enthusiasm, and was well liked by the men who served under him, as well as by his brother officers. His death was deeply regretted by all who knew him."

MEDICAL BENEFITS OF INVALIDED SAILORS AND SOLDIERS.

The Panel Committee for the County of London has had under consideration the provisional regulations relating to medical benefits of invalided seamen, marines, and soldiers, and decided on Oct. 9th (1) to approach the Insurance Commissioners in order to obtain the immediate withdrawal of these regulations; (2) to advise panel practitioners to notify the London Insurance Committee of their unwillingness to accept discharged and invalided sailors and soldiers on their lists under the terms of the new regulations, but that they are prepared to agree to the reinstatement of discharged invalided sailors and soldiers on their lists in accordance with the arrangement which has hitherto prevailed, and to render them medical treatment at the present capitation rate pending negotiations for a more equitable scheme; and (3) to draw the attention of the staff of the principal London hospitals to the arrangements being made for the domiciliary treatment of discharged disabled soldiers by general practitioners, asking them to urge upon the governors of the hospitals the necessity of restricting the services rendered to these patients to those of a specialist or consultative character, and of dealing only with such cases as are at the same time under the control of a general practitioner.

MINISTRY OF NATIONAL SERVICE: ITS MEDICAL ORGANISATION.

The New Gradations.—An Army Council Instruction has now been issued to the press confirming the medical classification of recruits into four groups for military purposes, which we sketched out in THE LANCET of Oct. 20th (p. 626) and which came into force on Thursday last. The official description of the categories is as follows:—

Category A is for men fit for general service, and includes: (i.) Men actually fit for general service in any theatre of war in all respects, both as regards training, physical and mental qualifications. (ii.) Recruits who should be fit for A (i.) as soon as trained. (iii.) Men who have previously served with an Expeditionary Force, who should be fit for A (i.) as soon as "hardened." (iv.) Men under 19 years of age who should be fit for A (i.) or A (ii.) as soon as they are 19 years of age.

Category B is for men not fit for general service, but fit for service at home (and abroad in the case of men passed fit for service overseas), and includes those: (i.) In field units (at home only) and in Garrison units, or on duties of an analogous nature. (ii.) In Labour units, or on garrison or regimental outdoor employment. (iii.) On sedentary work as clerks, storemen, batmen, cooks, orderlies, on sanitary duties, &c., or, if skilled tradesmen, at their trades.

Category D is for men temporarily unfit for service in categories A or B, but likely to become fit within six months, and meanwhile either:—(i.) In Command Depôts. (ii.) In Regimental Depôts. (iii.) In any unit under or awaiting medical or dental treatment (who on completion of treatment will rejoin their own original category).

Category E is for men unfit for service in categories A or B and not likely to become fit within six months.

Category D is stated to be temporary, so far as reserve units are concerned, and a man in a higher category will automatically come under D (iii.), if under medical or dental treatment, rejoining his original category until transferred either upwards or downwards, by the medical officer or travelling medical board.

Medical Boards.—We announced on Oct. 20th that medical men wishing to serve on the medical boards are invited to offer their services to their Local Medical War Committee, or, if living in the London postal district, direct to the Central Medical War Committee. In some cases where such application has been made the reply has been received that the list has been already completed and forwarded to the Ministry of National Service. We understand, however, that applications made direct to the Chief Commissioner of Medical Services will still be considered.

TREATMENT OF PATIENTS SUFFERING FROM NERVOUS DISORDERS.

The group of advisers who have conferred with the Director-General of the Army Medical Service on the treatment of patients suffering from nervous disorders have arrived, as far as the non-official members of the conference are concerned, at a unanimous basis for discussion. Among the suggestions made are that centres for the treatment of national nervous disorders should be established in different parts of the country as hospitals of not more than 500 or less than 250 beds, with ample grounds and facilities for employment and re-education. The medical staff, it is proposed, should consist of a commanding officer with special knowledge, assisted by a non-medical adjutant and a junior medical staff in proportion of at least 1 officer to 50 patients. A specialist staff should be available for consultation, and all patients suffering from nervous disorders should be sent direct from the Expeditionary Force to one of these hospitals or should be transferred from general hospitals as soon as their condition permits, without the intervention of any auxiliary hospital or convalescent home. We hope that these admirable proposals will in the event receive confirmation.

THE FRENCH RED CROSS AND FRANCE'S DAY.—The Lord Mayor of London, as honorary treasurer of the British Empire Fund for French wounded, has given to M. Paul Cambon, the French Ambassador, a cheque for £166,500, the amount realised by the collection on France's Day, and Lady Gertrude Cochrane, on behalf of the Scottish Red Cross, has handed over a cheque for £10,000 as a donation to the French Red Cross.

"OUR DAY."—The Joint Committee of the British Red Cross Society have received an additional sum of £23,000 from Victoria as an "Our Day" gift, making a total of £178,000. More than £5000 has also been received from Mauritius, £1800 from Uganda, and £1500 from Bermuda.

POSTHUMOUS AWARD OF THE V.C. TO A BRISTOL MEDICAL STUDENT.—Second Lieutenant H. F. Parsons, who succumbed to wounds received, was posthumously awarded the V.C. for most conspicuous bravery during a night attack by a strong party of the enemy on a bombing party held by his command. He was the eldest son of the Rev. Ash Parsons, a Wesleyan minister, of Bristol, and at the commencement of the war was studying medicine at Bristol University, with a view to become a medical missionary.

PENSION revision boards still continue to exceed their rights by questioning pensioners on the amount of their earnings when examining them for re-assessment. An Army Council Instruction just issued states again that any such inquiry is contrary to the present policy. In no case are men to be questioned as to the amount of their earnings.

COLLEGE OF PHYSICIANS OF PHILADELPHIA: THE ALVARENGA PRIZE.—The next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about $250, will be made on July 14th, 1918, provided that an essay deemed by the Committee of Award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but cannot have been published. They must be typewritten, and if written in a language other than English should be accompanied by an English translation, and must be received by the secretary of the college, Mr. Francis R. Packard, 19, South Twenty-second-street, Philadelphia, Pa., U.S.A., on or before May 1st, 1918. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the college: other essays will be returned upon application within three months after the award. The Alvarenga Prize for 1917 has been awarded to Dr. Wilburt C. Davison, Baltimore, for an essay entitled: "The Superiority of Inoculations with Mixed Triple Vaccine (*B. typhosus*, *B. paratyphosus A*, and *B. paratyphosus B*) over Successive Inoculations with the Single Vaccines, as shown by Agglutinin Curves in Men and Rabbits."

Medical News.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH, ROYAL COLLEGE OF SURGEONS OF EDINBURGH, ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—The following candidates passed recently the First and Second Examinations for the Diploma in Public Health:—

Annie Rankine McKail, Ella Ferrier Pringle, and John Lewis Owen.

The following passed the First Examination:—

Maud Muriel Gavin and Gokal Chand Sahgal.

The following passed the Second Examination:—

Report on Premises: Maud Muriel Gavin. Examination at Fever Hospital: Maud Muriel Gavin, Gokal Chand Sahgal, Gladys Richarda May Violet Williamson, and Tha Doe. Epidemiology and Endemiology: Maud Muriel Gavin.

The following are the results of the Triple Qualification Examinations:—

FIRST EXAMINATION.

Rachel Caplan.

Physics.—William Richard Tattersall and Robert James Hayes Spence.

Biology.—Esias Andries Nortje.

SECOND EXAMINATION.

Ronald Gillan Clouston, Robert Charles Dow, and William Campbell.

Physiology.—Anup Singh Narula, James MacClashan, Gracie Olwen Davies Evans, Thomas Poole, John Stevenson, William Dunsmore Oswald, and John Patrick Tynam Mills.

THIRD EXAMINATION.

James Charles Meek, Lawson Lamb Steele, Patabendi Martin Fernando, Lizzie Robertson Clark, Mayberry Hugh Carleton, Reginald Leslie Wright, and Jacob Johannes van Niekerk.

Materia Medica.—Walter Granville Carew, Andrew Gold, Ben Chiefitz, Leo Hugo Peries, John Murray, and Jatindra Kumar Sen.

FINAL EXAMINATION.

Robert Pollok, Archibald Bissember, Hendrik Wildeboer, Jackson Baird Minford, Frederic Gerald Pailthorpe, George Nicol Groves, Cuthbert Caulter Magee, Agnes Emilie Keen, Harold Gengoult Smith, Bernard Malachy Lynam, Roberto Quesada-Jimenez, Iwan Davies, Len Philip Sumarasinha, Cecil Vale Samwell, Phœbe Foott, Reginald Douglas Howat, Donald McKenzie Black, George Patrick de Silva, and Clifford Durham Pullan.

Medicine.—John Lavens West and Arukatti Patabendigo Frederick Abeysuriya.

Surgery.—Alfred Parker and William George Wilson.

Midwifery.—Samuel Amery Faulkner, Indranarayan Borrah, Alfred Edward Sanderson, Arukatti Patabendigo Frederick Abeysuriya, Christopher Robert Cecil Moon, Allan Paul McLeod, and Alfred Parker.

Medical Jurisprudence.—Hugh William Howatson, Lizzie Robertson Clark, Thomas Hall James Douglas, Don Alfred Walpola, Charles Edward Stuart Runciman, John Boyd, and Christopher Robert Cecil Moon.

HUNTERIAN SOCIETY.—Sir Alfred Pearce Gould will deliver the Hunterian lecture of this society in the form of an opening to a discussion on Modern Antiseptics, at the Royal Society of Medicine, on Wednesday next, Nov. 7th, at 5 P.M. On Thursday, Dec. 6th, at the same hour, a discussion will take place on the medical classification of recruits, opened by Captain Haldin Davis, R.A.M.C.

ROYAL INSTITUTION OF GREAT BRITAIN.—A general monthly meeting of the members will be held at the Royal Institution, Albemarle-street, Piccadilly, W., on Monday, Nov. 5th, at 5 P.M.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—At the recent Dental Examinations Donald Skinner and Robert Mitchell du Preez passed the First Dental Examination, and Willem Nieuwstadt-Retief, James Gould, and James Rowan Sherrard passed the Final Examination and were granted the diploma L.D.S. R.C.S. Edin.

THE INSTITUTIONAL TREATMENT OF TUBERCULOSIS IN THE COUNTY OF LONDON.—The London Insurance Committee has had under consideration the following facts: The waiting list for the institutional treatment of tuberculosis is now just over 500; the number of beds available, all fully occupied, is 459; and the number of applications annually is approximately 2500, of which some 2000 are new cases. Only a certain sum is available annually for sanatorium benefit. The fund at the disposal of the committee for institutional treatment is that remaining after other expenses in the administration of sanatorium benefit have been met, and the question arises how best to make use of the limited funds available. Dr. Noel D. Bardswell, to whom as adviser to the committee the question was submitted, writes as follows:—

On principle, it may be stated that a long waiting list defeats the object of the committee in that early and curable cases not infrequently develop into cases of advanced disease while waiting for a bed. At present the period of waiting is about 10 weeks for men and 7–8 weeks for women. It is a matter of shortage of beds. At King Edward VII. Sanatorium I had to deal with this same problem of insufficient accommodation. There I made it my principle to regulate the waiting list so that the admission of patients could be gained within five weeks after acceptance. This plan long experience proved to be satisfactory to all concerned. At Midhurst, with an accommodation of 105 beds, I aimed at a waiting list of 20, and never allowed it to exceed 35. To secure this, the standard for eligibility for admission and the duration of residence had to be somewhat varied from time to time in accordance with the pressure upon the beds, in short, upon the number of applications for admission. The Insurance Committee have 459 beds. To admit patients within some four weeks of acceptance, the waiting list should be some 150. To maintain the waiting list at a workable figure, one of two courses is open: (*a*) to select from all cases recommended for institutional treatment those most likely to make a permanent recovery and to give them preference in the shape of several months' residence, the remaining patients receiving domiciliary or dispensary treatment; or (*b*) to give every one recommended institutional treatment who, in my opinion, is likely to benefit from it to the point of restoration in some degree of capacity for work, a minimum of four weeks' residence, the period to be extended if it be deemed desirable and possible. This principle was adopted with much success at Brighton by Sir A. Newsholme, now principal medical officer of the Local Government Board, and was followed by myself at Midhurst. It is the course that I recommend. It ensures that every patient who is capable of improvement has the opportunity of learning the principle of the treatment he should follow. Moreover, as a means of safeguarding from infection those associated with the patients at home or at work, a course of education in a sanatorium, even if limited to only a few weeks, is of inestimable value.

In accordance with this opinion the London Insurance Committee decided to recommend for a minimum of four weeks' institutional treatment every insured person suffering from tuberculosis and likely to benefit by such treatment to the point of restoration of some degree of working ability.

Dr. H. S. Souttar has been granted the Royal authority to wear the Insignia of Officer of the Order of the Crown conferred upon him by the King of the Belgians.

LONGEVITY.—Mrs. Parrington, who is living at Chichester, widow of Canon Matthew Parrington, has just celebrated the 100th anniversary of her birthday.

MEDICAL MAGISTRATE.—Mr. Thomas Arthur King, M.R.C.S., L.R.C.P., of Bude, has been placed on the commission of the peace for the county of Cornwall.

AT the last meeting of the Exeter city council the Mayor expressed the gratitude of the council to Dr. Charles James Vlieland for his valuable services in connexion with the infant welfare centres in Exeter.

MEDICAL MAYOR.—Dr. William Fookes Thompson, J.P., will hold the office of Mayor of Launceston for a second year.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

War Services of the Medical Profession.

IN moving his motion of thanks in the House of Commons to the Navy, Army, and Mercantile Marine, Mr. LLOYD GEORGE, the Prime Minister, made reference to the war services of the medical profession. The portion of the motion on which he made this allusion was as follows:—

That the thanks of this House be given to the officers, non-commissioned officers, and men of the British Armies in the field, and also to the women in the medical and other services auxiliary thereto, for their unfailing courage and endurance in defending the right, amid sufferings and hardships unparalleled in the history of war, and for their loyal readiness to continue the work to which they have set their hands until the liberty of the world is secure.

Mr. LLOYD GEORGE said: I should like to say one word about the medical service, and I do not think we ought to pass by the chaplains in the Army. They have sustained their losses and done their work manfully, courageously, and tenderly. When you come to the medical service—men and women—they have never shown greater courage, knowledge, and experience. Thousands of them have devoted themselves to the curing of the wounded and the healing of the sick, and great consultants have given up princely incomes and volunteered for this service. Wounds have been cured which before the war were regarded as fatal, and as an illustration, and only as one illustration, of the services they have rendered in saving life, not merely by their curing expedients, but by the precautions they have taken, I may mention that in the South African War I believe 50,000 men died of typhoid. In France, out of our gigantic Army, during the whole three years of the war only 3,000 have fallen victims to this disease. We owe thanks to the medical profession. They have suffered. Hundreds have been killed and many hundreds more wounded. We should also thank the women, our trained and untrained nurses, whose tenderness and care for the wounded have earned thanks from the lips of hundreds of thousands of poor men whose lives have been

saved and who have been spared much suffering through their tender ministration. They have not escaped perils. Many have been killed by shell-fire. Many of them have been drowned in hospital ships, sunk with the sign of the Cross upon them. We all owe them a debt of gratitude.

Earl CURZON, in proposing an identical motion of thanks in the House of Lords, also alluded to the medical services. He said that when war broke out the Royal Army Medical Corps had 3168 officers and 16,330 other ranks. There were at the present time nearly 14,000 officers and 125,000 other ranks. The health of the Army had been better than that of the civilian population at home. He also mentioned the work of the nurses, not only in the hospitals behind the line, but also in the casualty clearing stations only just behind the front. Seven had been drowned by submarine action and several others had been killed by enemy bombs on hospitals. The name of one had been rendered immortal by her martyrdom.

War Pensions Committees.

The Naval and Military War Pensions (Local Committees) Bill has been read a second time in the House of Commons.

HOUSE OF COMMONS.

WEDNESDAY, OCT. 24TH.

Medical Examinations for the Army.

Mr. JACOBSEN asked the representative of the Ministry of National Service whether a man passed into the Army under the old conditions who produced a certificate of subsequent date from a civilian doctor to the effect that he was medically unfit for the work assigned to him could claim to be re-examined by an independent medical board.—Mr. BECK wrote in reply: With regard to men passed for the Army but remaining in reserve—that is, not called up—arrangements are being made that any such man will be graded, if he so wishes, by a National Service medical board, and if dissatisfied he may apply to be examined by the Local Government Board medical assessors attached to an appeal tribunal. My honourable friend will realise that serving soldiers are in no way under the control of the Ministry of National Service, but I can assure him that the Army Council is doing everything in its power to prevent soldiers being employed on work for which they are physically unsuited.

Hospital Uniform of Soldiers.

Mr. FERENS asked the Under Secretary for War whether he was aware that the uniform given to invalid and convalescent soldiers was obnoxious to them; and would he take steps to enable these men to wear their own uniform with a band on their arm, as did officers in similar circumstances.—Mr. MACPHERSON answered: The retention of regulation hospital clothing is necessary for administrative and disciplinary reasons, and patients in hospital cannot be allowed to wear ordinary uniform. Improvements have recently been introduced in the cut and style of these garments.

THURSDAY, OCT. 25TH.

Medical Referees for Disabled Soldiers.

Mr. C. ROBERTS asked the Pensions Minister what arrangements had been made for the appointment of medical referees under Article 12 of the instructions and notes on the treatment and training of disabled men.—Mr. PRATT (who replied) wrote: In response to advertisements inserted in the medical press and otherwise circulated a number of applications for the post of medical referee have now been received from all parts of the country and a committee of selection, consisting of representatives of the Central Medical War Committee, the Local Government Board, and the Insurance Commission, are considering the qualifications of candidates. The committee have already made recommendations to cover all the southern and some of the south midland counties of England and the whole of Wales, and over 100 medical referees out of a probable total of about 400 have been appointed.

Prison Dietary.

Replying to Mr. E. HARVEY on the subject of the prison dietary scale, Sir G. CAVE (the Home Secretary) said: The prison diets in force during 1915-16 were prescribed in 1901 in pursuance of the recommendations of a Committee who considered the whole subject of diet, with a view to avoiding indulgence and excess. But at the present time the current views on the subject have had to be considerably revised for all classes of the community and the prison population cannot be exempt from the consequences of this revision. The medical officers of the prisons are responsible for seeing that no prisoner's health suffers from any restriction of diet consequent on a general shortage of food. They have full powers to supplement the ordinary diet for any prisoner whose physical condition may require it, and they use their powers freely where necessary. Close observation maintained in all prisons since the beginning of July last does not point to any need for increasing the dietary.

TUESDAY, OCT. 30TH.

Medical Students.

Mr. SNOWDEN asked the Under Secretary for War whether it was intended to withdraw from the Army all medical students serving in non-combatant posts in order to relieve the shortage of doctors at home.—Mr. MACPHERSON answered: The whole question of the conditions of military service as they affect medical students is under consideration by the Ministry of National Service. I am informed that representations on the subject will shortly be laid by the Minister before the Army Council.

General Hospitals of Territorial Force.

Colonel GRETTON asked the Under Secretary of State for War whether in the regulations for general hospitals of the Territorial Force it was laid down that for each 520 beds there should be, in addition to medical officers engaged in administrative duties, four lieutenant-colonels and eight majors selected from distinguished members of the medical profession; and would he give a detailed Return showing how many beds there were at the present time in each of the five London general hospitals and how many lieutenant-colonels and majors selected from distinguished members of the civilian medical profession were actually engaged at the present time in clinical duties in each of the hospitals.—Mr. MACPHERSON answered: The reply to the first part of the question is in the affirmative, but only half of these members are to be on duty at one time, and the employment of the mobilised staff is subject to such modifications as the G.O.C. of the command may think necessary. The number of equipped beds in each of the general hospitals referred to and the number of lieutenant-colonels and majors doing duty at present is as follows:—

	Beds.	Lieut.-Cols. and Bt.-Lt.-Colonels.		Majors and Bt.-Majors.
1st London	1021	.....	4	 4
2nd London	1512	.....	2	 5
3rd London	2400	.....	2	 5
4th London	2171	.....	2	 3
5th London	662	.....	1	 1

The numbers of medical officers and civilian medical practitioners employed in addition to those stated above is as follows: 1st London, 21; 2nd London, 21; 3rd London, 36; 4th London, 31; 5th London, 16.

Ministry of Health.

Sir W. COLLINS asked the Prime Minister whether, in view of the conflicting and varied interests involved and the number of Government departments concerned, he would consider the advisability of setting up some form of inquiry, by Royal Commission or otherwise, into the desirability and practicability of instituting a Ministry of Health.—Mr. BONAR LAW (Chancellor of the Exchequer) replied: There is reason to hope that substantial agreement will shortly be reached amongst those directly concerned, and as the subject has already been very carefully investigated and reported on by the Reconstruction Committee and by a committee of Ministers, the Government do not consider that the appointment of a Royal Commission is necessary.

Soldiers Suffering from Nerve-strain.

In answer to Mr. KING, Sir A. GRIFFITH-BOSCAWEN (Parliamentary Secretary to the Ministry of Pensions) said: Men who are invalided from either the Navy or Army suffering from nerve-strain are medically examined by a special expert board. Any representations of local committees or available opinions of medical practitioners are considered carefully when men come up for re-examination.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, AND UNWIN, London.
The Making of Women: Oxford Essays in Feminism. By A. Maude Royden and Others. Edited by Victor Gollancz. 4s. 6d. net.
The Camp School. By Margaret McMillan, C.B.E. 3s. 6d. net.
The Framework of a Lasting Peace. Edited by Leonard S. Woolf. 4s. 6d. net.

CHAPMAN AND HALL, London, and JOHN WILEY AND SONS, New York.
A German-English Dictionary for Chemists. By Austin M. Patterson, M.D. 9s. 6d. net.

HEADLEY BROS., Kingsway House, Kingsway, W.C.
Practical Cheesemaking. By C. W. Walker-Tisdale and Walter E. Woodnutt. 4s. 6d. net.

MASSON ET CIE, Paris.
Leishmanioses: Kala-Azar, Bouton d'Orient, Leishmaniose Américaine. Par A. Laveran, Professeur a l'Institut Pasteur, Membre de l'Institut et de l'Académie de Médecine. Fr. 15.

METHUEN AND CO., London.
What Every Masseuse Should Know: Comfortable Grasps for Joint Movements. By Vera Waddington. With Prefatory Notes by Sir Rickman J. Godlee, K.C.V.O., and Mrs. Annie E. Stewart, and an Introduction by Laura M. Fairbairn. 2s. 6d. net.

W. B. SAUNDERS COMPANY, London and Philadelphia.
A Text-book of General Bacteriology. By Edwin O. Jordan, Ph.D., Professor of Bacteriology in the University of Chicago and in Rush Medical College. Fifth edition, thoroughly revised. 15s. net.
Diseases of the Stomach, Intestines, and Pancreas. By Robert Coleman Kemp, M.D., Professor of Gastro-intestinal Diseases at the Fordham University Medical School. Third edition, revised and enlarged. Cloth, 30s. net.
Diseases of the Genito-Urinary Organs and the Kidneys. By Robert H. Greene, M.D., Professor of Genito Urinary Surgery at the Fordham University, New York; and Harlow Brooks, M.D., Professor of Clinical Medicine, University and Bellevue Hospital Medical College. Fourth edition, thoroughly revised. Cloth, 24s. net.
Diseases of the Chest and the Principles of Physical Diagnosis. By George W. Norris, M.D., Assistant Professor of Medicine in the University of Pennsylvania; and Henry R. M. Landis, M.D., Assistant Professor of Medicine in the University of Pennsylvania; with a chapter on the Electrocardiograph in Heart Disease by Edward B. Krumbhaar, Ph.D., M.D., Assistant Professor of Research Medicine in the University of Pennsylvania. Cloth, 30s. net.
A Manual of Pharmacology and its Application to Therapeutics and Toxicology. By Torald Sollmann, M.D., Professor of Pharmacology and Materia Medica in the School of Medicine of Western Reserve, University of Cleveland. 20s net.
A Treatise on Diseases of the Skin: For the Use of Advanced Students and Practitioners. By Henry Stelwagon, M.D., Ph.D., Professor of Dermatology, Jefferson Medical College, Philadelphia. Eighth edition, thoroughly revised. Cloth, 28s. net.
Handbook of Practical Treatment. By Many Writers. Edited by J. H. Musser, jun., B.S., M.D., and T. C. Kelly, A.M., M.D. Vol. IV. 30s. net.
Treatment of Emergencies. By H. R. Owen, M.D. 8s. 6d. net.

SCIENTIFIC PRESS, London.
Human Temperaments. By C. Mercier, M.D., F.R.C.P. Second and revised edition. 1s. 3d. net.

SECRETARY OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION, Hot Springs, Virginia, U.S.A.
Transactions of the Association for 1916. Vol. XXXII.

YEAR BOOK PUBLISHERS, Chicago.
Practical Medicine Series. Vol. IV. Gynecology. Edited by E. C. Dudley, A.M., M.D., and S. S. Schochet, M.D. Series 1917. $1.35.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BALL, EDWIN, L.R.C.P., M.R.C.S., has been appointed Medical Officer for the No. 2 District by the Bristol Board of Guardians.

LOWE, J. P., M.B., Ch.B. Vict., one of the Medical Referees under the Workmen's Compensation Act, 1906, for County Court Circuit No. 9, and to be attached more particularly to the Macclesfield and Congleton and Sandbach County Courts.

ST. THOMAS'S HOSPITAL.—To be Casualty Officers and Resident Anæsthetists: ISARD, C. V., M.R.C.S., L.R.C.P. Lond; MARRINER, H. I.; MCCANN, J. G., M.R.C.S., L.R.C.P. Lond.; ODLING, F. C., M.R.C.S., L.R.C.P. Lond. To be Resident House Physicians: CLARK, W. E. LE GROS, M.R.C.S., L.R.C.P. Lond.; ELOFF, J. S., M.R.C.S., L.R.C.P. Lond.; GIBB, E. A., M.R.C.S., L.R.C.P. Lond.; RUSSELL, H. B., M.R.C.S., L.R.C.P. Lond. To be Resident House Surgeons: CALVO, R.; DILWORTH, T. F. M., M.B., B.Ch., B.A.O. N.U.I.; HILMY, A. H., M.R.C.S., L.R.C.P. Lond.; HIEF, F. R. G. To be House Surgeon: WALKER, R. A. To be Resident Obstetric House Physician: REYNOLDS, F. N., M.R.C.S., L.R.C.P. Lond.

SAWDON, GEORGE, M.B., Ch.B. Manch., Honorary Assistant Medical Officer to the Devonshire Hospital, Buxton.

STEWARD, SYDNEY T., M.B., Ch.B. Birm., Assistant Medical Officer to the New Cross Infirmary, Wolverhampton.

THEOBALDS, FLORENCE, M.D. Edin., Honorary Assistant Medical Officer and Honorary Anæsthetist to the Devonshire Hospital, Buxton.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).
When the application of a Belgian medical man would be considered the advertisers are requested to communicate with the Editor.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road.—House Surgeon.

BOLTON INFIRMARY AND DISPENSARY.—Female Senior House Surgeon. Salary £300 per annum, with board, &c.

BOOTLE BOROUGH HOSPITAL, Derby-road, near Liverpool.—Junior House Surgeon. Salary £170 per annum, with board, &c.

BRIDGWATER HOSPITAL.—House Surgeon. Salary £140 per annum, with board, &c.

BRISTOL ROYAL INFIRMARY.—House Physician and House Surgeon. Salary at rate of £120 per annum, with board, &c.

CHESTER ROYAL INFIRMARY.—Assistant House Surgeon. Salary £150 per annum, with board, &c.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—Resident Medical Officer. Salary £150 per annum, with board, &c.

EVELINA HOSPITAL FOR CHILDREN, Southwark, London, S.E.—House Physician and House Surgeon for four months. Salary at rate of £160 per annum, with board, &c.

GLAMORGAN COUNTY COUNCIL.—Temporary Female Medical Officer for medical inspection of children in public elementary schools. Salary at rate of £300 per annum.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway, London, N.—Two House Surgeons for six months. Salary at rate of £100 per annum, with board, &c.

HACKNEY UNION INFIRMARY, 230, High-street, Homerton, E.—Junior Assistant Medical Officer. Salary £250 per annum, with rations, &c.

HAMPSTEAD, BOROUGH OF.—Temporary Medical Officer of Ante-Natal Clinic. Salary £105 per annum.

KENSINGTON AND FULHAM GENERAL HOSPITAL, Earl's Court, S.W.—Resident Medical Officer. Salary £250 per annum.

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL.—Temporary House Governor and Secretary. Salary £250 per annum.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Assistant House Surgeon. Salary £125 per annum, with board, &c.

MANCHESTER, ANCOATS HOSPITAL.—Resident. Salary £50 per annum with board, &c.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury, near Manchester.—Female Resident Medical Officer, unmarried. Salary at rate of £200 per annum.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Park-place, Cheetham Hill-road.—House Surgeon. Salary £150 per annum, with board, &c.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer, £225 per annum; Assistant Resident Surgical Officer; Accident Room House Surgeon; and Resident Medical Officer, Central Branch, £200 per annum each.

NOTTINGHAM GENERAL HOSPITAL.—Female Casualty House Surgeon for six months. Salary at rate of £250 per annum, with board, &c.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—Resident Medical Officer. Salary at rate of £160 per annum, with board, &c.

ROTHERHAM HOSPITAL.—Junior House Surgeon. Salary £150, with board, &c.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, 231, City-road, E.C.—Clinical Assistants.

ROYAL LONDON OPHTHALMIC HOSPITAL (MOORFIELDS EYE HOSPITAL), City-road, E.C.—Third House Surgeon. Salary at rate of £50 per annum, with board, &c.

SALISBURY GENERAL INFIRMARY.—House Surgeon. Salary £150 per annum, with board, &c.

SOUTHAMPTON, FREE EYE HOSPITAL.—House Surgeon. Salary £100 per annum, with board, &c.

SURREY COUNTY COUNCIL.—Medical Officers for Mother and Infant Welfare and School Work. Salary £400 per annum.

WORCESTERSHIRE ASYLUM, Barnsley Hall, Bromsgrove.—Temporary Assistant Medical Officer.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of a vacancy for a Certifying Surgeon under the Factory and Workshop Acts at Bangor, Down.

Births, Marriages, and Deaths.

BIRTHS.

CROMBIE.—On Oct. 26th, at Highden, Sidcup, the wife of W. Maurice Crombie, M.B., Indian Medical Service, of a son.

MACALPINE.—On Oct. 23rd, at Cranbrook, Sedgley Park, Prestwich, to Captain Jas. B. Macalpine, F.R.C.S., R.A.M.C. (T.), and Mrs. Macalpine, a daughter.

RENSHAW.—On Oct. 21st, at Newstead, Ashton-on-Mersey, to Dr. and Mrs. J. A. Knowles Renshaw—a son.

MARRIAGES.

BEKEN—MAY.—On Oct. 22nd, at Notre Dame de Lorette Paris, Lieutenant Kenneth Stewart Beken, R.A.M.C. (T.), to Mary Theresa, daughter of Mr. and Mrs. Robert May, of North Dulwich.

MARSHALL—WILSON.—On Oct. 20th, at St. Margaret's Westminster, Captain J. D. Marshall, D.S.O., R.A.M.C., of Beverley, Chorley New-road, Bolton, to Dorothy, younger daughter of the late William Wilson and Mrs. Wilson, Lyndhurst, Sandford-road, Dublin.

ORR—LINDSAY.—On Oct. 18th, at Buchlyvie Parish Church, Thomas Orr, M.D., D.Sc., Barrister-at-Law, to Dorothy, only daughter of Dr. and Mrs. R. W. Lindsay, Edzell, Buchlyvie, Stirlingshire.

POWELL—BINNEY.—On Oct. 3rd, at St. Paul's, Knightsbridge, Hubert Wybrants Powell, Captain, R.A.M.C., to Laleah Almon, second daughter of the Rev. J. E. H. Binney, of 3, Rue Eugene Manuel, Paris.

ROCHE LYNCH—PINNOCK.—On Oct. 27th, at St. Mary's Church, South Hayling, Temporary Surgeon, R.N., Gerald Roche Lynch, M.B., B.S. Lond., to Sybil Marguerite, third daughter of Mr. and Mrs. Pinnock, of S. Patricks, Hayling Island.

SUNDELL—BOLWELL.—On Oct. 27th, at S. John the Evangelist, Lower Weston, by the Vicar, Rev. J. C. Church, B.A., Charles E. Sundell, M.D., M.R.C.P., Temporary Captain, R.A.M.C., to Gwladys, daughter of Mr. and Mrs. A. R. Bolwell, of Forfar Lodge, Bath.

TAYLOR—CAPEL.—On Oct. 24th, at Chipstable Parish Church, Somerset, James Taylor, Captain, R.A.M.C., to Amy Catherine, elder daughter of Mr. and Mrs. Arthur Capel, Bulland Lodge, Wiveliscombe.

DEATHS.

BROOKHOUSE.—On Oct. 19th, at Hill Crest, Lincoln, Charles Scott Brookhouse, L.D.S.

FENTON.—On Oct. 16th, at "Langstone," Ealing, Frederick E. Fenton, F.R.C.S. Ed., M.R.C.P. Ed., V.D., aged 64.

GAUNT.—On Oct. 9th, killed in action, Captain Eric Thomas Gaunt, R.A.M.C., second son of Dr. J. Penn Gaunt, late of Alvechurch, Worcestershire.

ODHAMS.—On Oct. 26th, at St. Giles's Plain, Norwich, George Frederick Odhams, M.D., J.P., aged 56.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE COMMUNAL KITCHEN.

THERE ought to be communal kitchens everywhere; their use would, of course, be at the discretion of the locality. Their instalment not only counts for a very material economy in fuel, but they reduce the hardships of the poorer amongst us, and where the system has been introduced the results have been admirable and greatly appreciated. The establishment of cooking centres for the coming winter would tide over a very trying season for a great body of hard and willing workers. Cafés and restaurants are practically barred to the majority of these, the charges made are beyond their means, and at a time when the energy and efficiency of the human machine are tasked more than ever the supply of good nourishing food is essential. As it is two or three sandwiches are trusted to carry over the fatigued machine until the end of the day, whereas a communal kitchen would provide a means of cooking a substantial meal and give accommodation to partake of food under cheerful and comfortable surroundings. In some cases the communal kitchen may not have been organised on lines essential to success, but everything points to the scheme being a sound one, and when properly executed there is little question of the relief and comfort which such institutions will bring to many. Our local authorities have been so hard pressed with fresh duties occasioned by the war that here and there very little time has been given to the communal kitchen, but with the winter upon us we understand that the work is being vitalised. It is generally agreed that in regard to food supplies and other necessaries we should be prepared for still harder times, and one important step would be to keep in healthy activity the communal kitchen, since it has proved to be a real help and blessing to many people. It can be run without financial loss, and the economy of fuel effected is, of course, an important matter, while the heavy expense of burning coal at home would be relieved. The communal kitchen, in fact, furnishes an excellent example of the benefits which a simple scheme of centralisation can render the public.

"ON TOUR."

[A theatrical company arrived in a Scottish provincial town the other Monday to fulfil a week's engagement. On Tuesday night, during the performance, one of the actors, a somewhat deformed and emaciated little man, had a violent hæmorrhage from the lungs. He was taken home to his meagre lodgings, and on the following morning the doctor told the manager of the troupe that the poor fellow's "number was up," and that it was "only a question of time."]

Slightly deformed, he filled a sort of gap,
Serving the chief buffoon as foil and butt,
And drollish were the capers that he cut,
And wry his features when he "took the nap";
He carried on, through good and evil hap,
Till Tuesday last, when, resting "on the side,"
He coughed a bit, and lo! the arterial tide,
Crimson and warm, incarnadined his lap.

I saw him in his little room to-night,
Saw the dew'd temples and the sunken cheek,
And I *knew* the shadow of death was stealing on. . .
He told me he had fixed it up all right
To join the troupe at Wigan, Monday week,
Or Monday fortnight *sure* at Warrington.

JOHN FERGUSON.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Papers:—Mr. D. M. S. Watson: The Structure, Evolution, and Origin of the Amphibia. Part I., The "Orders" Rachitomi and Stereospondyli (communicated by Prof. J. P. Hill).—Mr. E. C. Grey: The Enzymes concerned in the Decomposition of Glucose and Mannitol by Bacillus Coli Communis. Part II., Experiments of Short Duration with an Emulsion of the Organisms. Part III., Various Phases in the Decomposition of Glucose by an Emulsion of the Organisms (communicated by Dr. A. Harden).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MEETINGS OF SECTIONS.

Tuesday, Nov. 6th.

PATHOLOGY (Hon. Secretaries—Gordon W. Goodhart, J. A. Murray): at 5 P.M.

Inaugural Address:

The President, Prof. W. Bulloch, M.D., F.R.S.: The Allied Spallanzani as an Experimental Pathologist.

RÖNTGEN SOCIETY, at the Royal Society of Arts.

TUESDAY.—8.15 P.M., Presidential Address:—Capt. G. W. C. Kaye: The Part played by X Rays in the War.—Exhibition of Apparatus—Radiological and Electro-therapeutical—illustrating the most recent developments in such appliances.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

THURSDAY.—5 P.M., Bradshaw Lecture:—Prof. E. S. Reynolds: The Causes of Disease.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

Museum Demonstrations (Pathology) for Medical Students and Practitioners and First-Aid and Ambulance Students:—

MONDAY.—5 P.M., Mr. S. G. Shattock: Inflammation and Gunshot Injuries.

THURSDAY.—5 P.M., Bradshaw Lecture:—Sir John Bland-Sutton: Misplaced and Missing Organs.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Gray: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women.

TUESDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Banks Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Arthur Saunders: Diseases of Children. Dr. Banks Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Gray: Operations. Mr. B. Harman: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Simson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Banks Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Arthur Saunders: Diseases of Children. Dr. Banks Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Eye Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

THURSDAY.—5 P.M., Chesterfield Lecture:—Dr. M. Dockrell: Sebaceous Dermatitis.

METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, Oct. 31st, 1917.

Date.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Oct. 25	...	81	53	39	42	45	Fine
,, 26	...	72	52	44	44	46	Overcast
,, 27	...	72	47	37	37	38	Fine
,, 28	...	70	49	34	34	35	Fine
,, 29	...	63	50	34	38	40	Fine
,, 30	0·19	70	54	39	48	49	Raining
,, 31	0·05	74	55	40	42	42	Cloudy

Other information which we have been accustomed to give in these "Readings" is withheld for the period of the war.

The following journals, magazines, &c., have been received:—Journal of Anatomy, Eugenics Review, St. Paul Medical Journal, Surgery, Gynecology, and Obstetrics, American Journal of Public Health, Albany Medical Annals, Archives de Médecine et de Pharmacie Militaires, Revista del Circulo Médico de Córdoba, Archives de Médecine et Pharmacie Navales, Indian Medical Gazette, Indian Journal of Medical Research, &c.

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